

## PERFORMANCE

Energy delivered / energy supplied = performance (always < 1)

This is the tyre's capacity to deliver the energy supplied by the cyclist in riding conditions

As far as the tyre is concerned, it depends on:

- the type of compound
- the tread
- the design ply density and construction
- the tyre architecture, reinforcements, overlap, etc.
- the quality of the inner tube used (MICHELIN or competitor)
- the size of the tyre
- the inflation pressure
- the rolling resistance of the tyre

As well as:

- the type of ground
- aerodynamics
- wheels and bearings

## GRIP

Grip is the tyre's capacity to respond to the stress imposed by the cyclist in all conditions: braking, traction and cornering.

**For Mountain Bikes and City Trekking tyres:**

Grip is linked to the tread design, inflation pressure and compounds composition.

**For road tyres:**

Grip mainly depends on the composition of the compounds and the inflation pressure since the very low width of the surface in contact with the road (around 7kg/sq.cm).

## COMFORT

This is the tyre's capacity to absorb uneven ground surfaces to attenuate vibration at the level of the handlebars and saddle.

**Comfort is improved by:**

- A latex inner tube
- A larger section
- The composition of the casing
- The right pressure (CF : Michelin Man recommendations at the end of the catalogue)

These 4 elements are combined to optimize comfort without affecting performance.



## **PUNCTURE RESISTANCE**

These are three types of puncture:

### **1/ Perforation and cuts**

Nails, stones, thorns, etc. can cause perforation.

The aggressive nature of certain surface (ground) can cause cuts. The thickness and quality of the rubber, the density of casing threads and the presence of fabric or rubber reinforcement are elements that govern the resistance of a tyre to this type of puncture.

### **2/ Nipping impact**

The inner tube is nipped between the edge of the rim and the ground when rolling quickly over an obstacle (a pothole, for example). The resistance of the tyre to nipping impact is obtained by a large section, the thickness of the sidewall and the thickness of the inner tube walls.

The right inflation pressure chiefly avoids this type of puncture.

### **3/ Perforation by the rim well**

This occurs when the rim band is unsuitable (width, material, etc.) or in poor condition.

This type of perforation can be identified by its position on the rim side of the inner tube.

## **Recommendation**

It is to avoid this type of puncture that we recommend you change the rim band each time the tyre is replaced, as well as when the inner tube is replaced.



## **ENDURANCE / SERVICE LIFE / LONGEVITY**

They depend on:

- The thickness of the rubber at the top of the tyre
- The compound wear resistance
- The casing "fatigue" resistance
- Tyre aggression resistance (ozone, cuts)
- A suitable balance for the tyre pressure between the cyclist and type of use.

The service life of a tyre may vary up to three times longer, depending on the user and the terrain.

## **LIGHTLESS**

This is improved by:

- The casing thread diameter: the finer the thread, the lighter the casing
- The type of bead: flexible beads are lighter than rigid ones
- The absence of puncture resistance reinforcement
- The thickness of the tread.

## **FITTING DIRECTION FOR MOUNTAIN BIKE TYRES**

Why a particular direction for fitting?

The direction in which a tyre is fitted will enable the user to optimize the performance of the tyres in terms of braking and traction.

In general, the front tyre is more involved in braking while the rear tyre gives maximum traction.

The rolling direction is marked directly on the tyre by an arrow.

The tyres are also marked "Front" and "Rear".