Mousse Matters

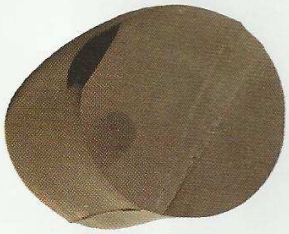
Info by Philip Baker

So you think a mousse is either a solid piece of rubber or a creamy chocolaty dessert you wouldn't mind eating right now? Think again, there's a lot more to a mousse and if you are going to use them, you should know what they are all about to get the best out of them and not be let down. We got the low down on mousses from Philip Baker of Autocycle Centre, the sole Importers and Distributors of Goldentyre in South Africa.

Most people think of a mousse as a solid "permatube" piece of rubber that is an absolute nightmare to fit, but once fitted you are guaranteed to never get a puncture again. We were quite surprised to learn that in fact a mousse is a ring of butyl honeycomb foam cells filled with nitrogen under pressure. Butyl rubber has excellent impermeability (resists water absorption and gas escape/ absorption) and flex properties. Also, mousses are not necessarily a guaranteed puncture-free ride, especially if some basics are not adhered to.

Why Nitrogen filled cells?

- Nitrogen is a far more stable gas than air.
- Normal air contains water vapour which affects its properties more than Nitrogen when under temperature changes i.e. water heats up more than air and stays hot longer! It also expands more when hot. And as we know, tyres warm up when in use due to friction. Due to this water vapour in air and the lack of it in nitrogen, nitrogen bubbles are less likely to expand and pop, seeping out of the mousse - a "collapsed mousse" by definition.
- Nitrogen is less likely to seep through the butyl so mousse will last longer.
- Less pressure fluctuation with temperature change.
- Nitrogen is slightly lighter than air.



Not just a solid rubber permatube. A mousse is a high-tech ring of Butyl honeycomb foam cells filled with nitrogen under pressure.

Are Mousses Indestructible?

No, but they are tough and can offer riders great peace of mind and confidence in terms of an almost guaranteed puncture free race or ride. They can give riders the confidence to commit to and attack a chosen line even if it means hitting quite sharp and rugged rocks or other obstacles. Using mousses should mean that the rider has one less thing to worry about and he can focus on his riding.

The main things that mousses don't like are heat and water. High heat over an extended period will break the mousse down and they are not recommended for sustained speeds in excess of 100 km/h, and definitely should not be used on tarred roads which cause greater heat build up.

Mousses do not last forever – they have a limited shelf life and usually have a lifespan of between 6 and 12 months once removed from the packaging. Lifespan will be affected by various factors such as application, rider style/ level, size and shape of tyre fitted into, quality of initial fitment and maintenance thereafter.

Fitting/ Removing a Mousse:

Special soaps/ lubes for the tyre bead are available and recommended.

A 2nd brush for applying the soap to the tyre bead is recommended.

A Tyre changing machine certainly helps but is not essential –

you can work on an old tyre placed on the ground, on a trailer or on a bench.

A spare pair of hands really helps too!

Preparation

- Remove rim-locks. If the correct size mousse and tyre are used together, rim locks should not be necessary. In specific cases e.g. running a smaller mousse in a bigger tyre for a specific purpose, rim locks may be necessary.
- Ensure rim has good rim tape covering spoke nipples and surfaces are smooth, dry and clean.
- Inside of tyre is clean, dry and free of anything that might damage the surface of the mousse.
- Squirt the Mousse gel into the tyre, NOT ONTO THE MOUSSE. Using the paint brush spread the mousse gel inside the tyre only in the area where the knobblies are, NOT ALL THE WAY UP THE INSIDE OF THE SIDE WALLS.
- DO NOT GET ANY MOUSSE GEL ON THE BEAD OF THE TYRE. This is a common mistake and can cause the rim to slip inside the tyre.

Due to differences in measurement methods, some off-road tyres and mousses are marked differently from the equivalent sizes offered by other manufacturers. This chart indicates the reason and differences in these non-standard size markings to help you select the correct size mousse/ tyre combination - THIS IS CRITICAL! A small mousse in a large tyre will have too much movement, friction and excessive heat build up.

	Standard sizes	Non-standard sizes	Mousses
FRONT	80/100-21, 3.00-21	90/90-21	80/100-21
REAR	100/100-18, 4.00-18, 4.10-18	120/90-18	120/90-18
REAR	110/100-18, 4.60-18, 5.10-18	130/80-18	140/80-18
REAR	120/100-18, 5.10-18	140/80-18	140/80-18
REAR	100/90-19	120/80-19	100/90-19
REAR	110/90-19	130/70-19	110/90-19

NOTE: these tyre sizes referenced above are actually the same size as the non standard sizing. It is a measurement principle, and a shape of casing that changes, not the actual size of tyre.

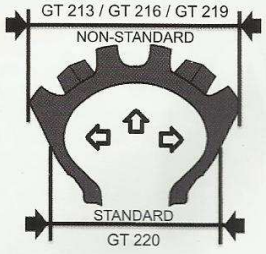


Diagram shows different measurement methods. FIM tyres are measured Non-standard - e.g. "140/80-18"