



## Run-flat Tyres

Run-flat tyres are becoming a common accessory on new vehicles. This fact sheet seeks to explain how they work, their benefits, and things you need to consider if you have a vehicle with run-flat tyres.

### How they work

In conventional tyres, the pressurised air contained within the tyre supports the weight of the car. However, recently tyres have been developed which are able to support the weight of the car by themselves, for a short period of time. These are known as run-flat tyres.

run-flat tyres have been developed in order to minimise the risks associated with a tyre puncture. A puncture can lead to the driver losing control of the vehicle due to the deflated tyre's loss of shape and structure.

In everyday operating conditions, run-flat tyres work like conventional tyres. They still contain air; to reduce the load that the run-flat system has to bear, to spread the weight of the vehicle evenly on the road surface, and to maximise the contact patch between the car and the road.

The advantage with run-flat tyres is that they can operate without air in them, for a relatively short distance and low speeds, as their basic shape is kept by rigid components. This rigidity helps a driver maintain control of the vehicle if the tyre loses pressure, and removes the need to change a tyre immediately.

There are currently two different types of run-flat tyre –

### Reinforced sidewall

One way that a tyre can be adapted to support the weight of the vehicle is to increase the thickness and strength of the sidewall. Although the tyre will bulge outwards without pressurised air inside, it will not completely collapse and become unseated from the rim, as a conventional tyre can.

### Internal support ring

The internal support ring is a less common design of run-flat tyre. When the tyre becomes deflated, it rests upon the internal ring, which supports the vehicle and maintains both the tyre's shape, and its contact with the road.

### run-flat tyres and your vehicle

run-flat tyres offer a better level of safety than conventional tyres if they have a puncture - although they should be treated with care so as not to lose this benefit, or put you at further risk when using them.

Do not travel long distances or at high speeds on a punctured run-flat tyre. You should ensure that you know your run-flat tyres' maximum speed and distance, this information can be found on the sidewall of the tyre or by contacting the tyre manufacturer. Never exceed the maximum speed and distance stipulated by the tyre manufacturer. If one of your run-flat tyres has a puncture, you should replace it at the earliest opportunity available.

If a run-flat tyre has been used without internal pressure, then damage can occur to the tyre. The damage may be internal and is not always visible. run-flat tyres that have been used whilst deflated should always be replaced, rather than repaired, if they have suffered damage.

As many run-flat tyres offer good ride comfort whilst deflated, it is often hard for the driver to feel that a tyre is deflated by physical means. In order to detect a deflated run-flat tyre, your vehicle needs a Tyre Pressure Monitoring System (TPMS), and you need to be aware how it will communicate a loss of tyre pressure. You should never retrofit a run-flat tyre to a vehicle without a TPMS.

You should seek expert advice from your vehicle manufacturer before retrofitting a run-flat tyre if your vehicle has TPMS. As the tyre is more rigid, vehicles that have them as standard may require softer suspensions to compensate for the lost ride comfort. Guidance should also be sought from the tyre manufacturer.

It is still vital to check tyre pressures regularly to ensure they are inflated to the manufacturer's recommended pressure, and to also check the tyres for damage. The chances of needing the run-flat capabilities of the tyre are much reduced if the tyre is well maintained.