

Speed Ratings

What is a speed rating?

A speed rating is a letter which indicates the maximum speed capability of a tire. In Europe, speed ratings were originally developed to help owners of high performance sports cars choose replacement tires designed to match the speed capabilities of their vehicles. A wide range of speed ratings was made available, with manufacturers specifying a particular rating as the replacement for each model. As a result, the ratings have become, sometimes incorrectly, associated with the handling capabilities of a certain type of car. For the purposes of North American drivers, speed rating can be condensed into five major categories:

- S - for speeds up to 112 MPH
- T - for speeds up to 118 MPH
- H - for speeds up to 129 MPH
- V - for speeds up to 149 MPH
- Z - for speeds above 149 MPH

How is the tire's speed capability achieved?

As the speed of a tire increases, its components tend to grow or deform. This deformation leads to heat generation. This is a normal effect of the deformation of the tire's components due to centrifugal force. The faster the tire spins, the greater its tendency to deform. And the more it deforms, the more heat is generated.

But for tires driven at high speeds, controlling heat levels is critical. Engineers must find ways to control tire growth so that heat levels are confined to acceptable tolerances.

To overcome this problem, speed-rated tires are designed with advanced belt configurations engineered to resist and control deformation. This allows the tire to be driven at higher speeds without excessive heat buildup.

How does the speed rating relate to handling?

The fact that a tire is speed-rated indicates very little about its handling capabilities. The speed rating, as mentioned earlier, is almost entirely dependent on the tire's belt structure.

Think of the speed rating as being like a temperature grade. It tells nothing about the tire's construction, its handling or its wearability. It is merely a measure of the tire's integrity at high speeds.

Do speed-rated tires cost more than other radials?

It depends on what you want in a tire. If you're looking for an ultra-high performance, Z speed-rated tire which employs expensive KEVLAR belts and advanced performance compounding, then, of course, you can expect to pay more than you would for a standard passenger radial. But for an S speed-rated tire, the cost will generally be much closer to that of a passenger radial.

My car came equipped with V-rated tires. Can I switch to a lower rating?

Yes. There are several reasons you might want to switch speed ratings:

- If you never drove to the limits of your original equipment tires
- If you want a different type of performance from the tire itself
- If high speed-rated radials are just too expensive for you.

But before you decide to buy the least expensive tire you can find, remember to consider the performance of the tire, not just its speed rating. You should still try to match the tire's handling personality to that of your car. And if you decide to move to a lower rated tire, you'll have to reduce your vehicle's maximum

speed capability. If you're not going to drive beyond the tire's speed limits, then there is nothing wrong with moving to a lower speed-rated tire.

Can I get an all-weather speed-rated tire?

Recent developments in compounding and tread design have enabled Michelin to build speed-rated tires capable of delivering outstanding traction in all weather conditions.