

## Winter Tires Revisited

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### **I have all season radials. Aren't they all I really need?**

Even if winters in Chicago aren't as bad as those in Boise or Buffalo, the 2011 snowpocalypse demonstrated that it's not always easy to drive here. New all season tires offer a reasonable compromise between warm- and cold-weather performance, but a couple of years of tire wear can markedly decrease their effectiveness in the snow. Switching to winter tires will greatly increase your car's traction on snow, slush and ice and will give you a confidence boost as you try to cope with treacherous road conditions.



Driving in the winter can be a chore, but winter tires can make it easier to get around.

### **If I get winter tires, what do I do with the ones on the car now?**

Many people do a twice-annual tire swap once they purchase a set of winter tires. You'll need to factor in the cost of winter and spring tire changes to your annual vehicle maintenance, though some tire dealers include tire swaps in their road hazard warranty coverage.

You can minimize the hassle of tire changes by purchasing a set of utilitarian wheels for your winter tires. Keeping separate sets of warm and cold weather wheels and tires makes seasonal swaps easier, as the tires don't need to be removed from the rims to be mounted. Getting a set of winter wheels may also allow you to get higher profile tires which are generally cheaper and have better traction in the winter than wider tires.

## Can't I put just two snow tires on my vehicle and leave the other two as all season radials?

No. You should always mount a full set of four tires at once, as handling can be unpredictable and dangerous otherwise. Differing degrees of traction on your wheels can result in severe understeer (plowing straight ahead when you're trying to turn) or oversteer (fishtailing around corners). In addition, braking distances in snow will be longer in a mismatched set versus four winter tires.

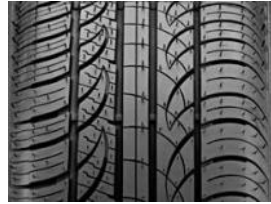
### What makes winter tires different from other tires?

There are two essential differences among tire types:

- **Tread pattern** is the most obvious difference.  
**Summer** performance tires put a lot of rubber in contact with the surface, while **all season** tires often have channels which transfer water from the center of the tire outward. They also have hairline cuts in the rubber called *sipes* which help to provide grip and dissipate heat. **Winter** tires typically have large, distinct *tread blocks* which give traction in snow, yet release the snow from the tread quickly so it doesn't build up.
- **Tread Compound:** You might be surprised to learn that there are major differences in the types of rubber (called *compounds*) used in tires. **Summer** tires use a compound which is super sticky in warm and hot temperatures but loses adhesion when temperatures dip below 40 degrees Fahrenheit. **All season** tires use a rubber compound which works fairly well at most operating temperatures



**Winter**



**All Season**



**Summer**

Tire tread pattern comparison

*Winter:* Pirelli SnowControl 190

*All Season:* Pirelli PZero Nero All Season

*Summer:* Pirelli PZero Nero

but doesn't excel in either cold or hot conditions. **Winter** rubber compounds are specifically designed to stay flexible and provide excellent traction in cold temperatures. Because they stay flexible in freezing temperatures, they perform better than all season radials in the cold, even when there is no snow or ice on the road. Remove them promptly in the spring, as the soft rubber compound will wear quickly in warm temperatures.

### What do all of the numbers and letters on a tire mean?

Few consumer products rely so heavily on arcane numbers and letters to identify their characteristics.

Here's an example of a tire code: **225/50R17 94V 280 AA A**.

- **225** is the width of the tire at its widest point in millimeters.
- **50** refers to the sidewall's height as a ratio to its width. In this case, the sidewall is 50% as tall as it is wide. For winter tires, a taller aspect ratio is desirable, as the narrow tire will readily cut through the snow.
- **R** simply denotes that the tire is of radial construction. Most passenger vehicle tires sold today are of type R.
- **17** means that the tire will fit on a 17" tall rim. If you're buying an extra set of wheels to go with your winter tires, you might consider dropping down a size (in this case to 16" rims). In addition to costing less, this will allow you to select higher profile tires, which perform better in the snow.
- **94V** This code has two parts. **94** is the load rating – how much weight each tire can handle. **V** is the tire's speed rating – the maximum speed at which the tire can be driven. In this case, V indicates a maximum of 149 miles per hour.
- **280 AA A** The number **280** is an indication of the tire's expected tread life as compared to a test tire (280 will last 2.8 times as long as the test tire, which has a standardized score of 100). This number can be useful in comparing tread life between models in a manufacturer's lineup. Avoid comparing tread life ratings across manufacturers, as their comparison models may have different characteristics. The two letter codes which follow the number, **AA** and **A**, refer to a tire's wet traction rating and its temperature rating. Both **AA** for traction and **A** for temperature are the best possible ratings. The worst rating in each category is C.

For more information on interpreting tire sizes and codes, check out [www.tirerack.com/tires/tiretech/techpage.jsp?techid=35](http://www.tirerack.com/tires/tiretech/techpage.jsp?techid=35) and [auto.howstuffworks.com/tire2.htm](http://auto.howstuffworks.com/tire2.htm).

## What special markings can I find on winter tires?

The **M+S** designation, which stands for “mud and snow,” means that the tread meets design requirements which will theoretically aid traction. However, since no actual testing is required for an M+S rating, the benefits are somewhat uncertain.

Consumers looking for more assurance of winter traction should look for the **Severe Winter Traction Standard** symbol (a snowflake on a mountain) which can only be gained by demonstrating increased snow traction in real-world testing.



The Severe Winter Traction Standard symbol on winter tires is desirable.

## How long will winter tires last?

You can probably expect at least three seasons of winter use, and maybe several more if you remove them promptly every spring when the average low temperature is above 40 degrees. Of course your warm weather tires will also last significantly longer, as they are off of the vehicle for four or five months every year.

## Conclusion

While snow tires can be costly, especially for large wheel sizes, the peace of mind their improved traction brings is worth a lot. Speak to a tire dealer to learn about what options are available for your vehicle.

If you have questions, comments or suggestions, you can visit me at the Reference Desk, contact me via email ([moetting@hinsdalelibrary.info](mailto:moetting@hinsdalelibrary.info)), or call me at 630.986.1976 ext. 225.

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Mike Oetting, Reference Librarian  
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20 East Maple St.  
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