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Factors Influencing Tyre Mileage

The mileage performance of a tyre is greatly influenced by many factors. The following information describes most of these factors and how they influence the mileage performance of tyres.

Factor		Importance	Remark
Tyre	Construction	medium	The tyre should be constructed to ensure an even ground pressure distribution under varying usage conditions. An even ground pressure distribution reduces relative movement and slip in the contact patch.
	Tread compound	strong	Modern, premium tyres have high technology silica tread compounds which help to solve the target conflict of wear vs. wet grip
	Tyre width	medium - low	Wider tyres of the same diameter have a larger contact patch. This leads to lower ground pressure which reduces tyre wear and increases tyre life. On the other hand, the handling behavior of the tyre is also improved, which often leads to the car being driven in a more sporty manner.
	Speed symbol	medium	Increased demands on the high speed capability of the tyre, generally reduce the achievable mileage.
Driver		strong	Tyre life is reduced dramatically by fast, sporty driving. Strong acceleration, and braking plus fast cornering increase tyre wear dramatically. Driving carefully and thinking ahead increases tyre life.
Pressure / Load		strong	If the inflation pressure is too low for the load, slip between tyre shoulder and center will take place in the contact patch. The increased slip increases wear and reduces tyre life.
	Too much pressure	low	If the inflation pressure is too high for the load, the ground pressure increases in the center of the tyre in the contact patch. This can lead to an increase in tyre center wear. As long as the vehicle manufacturer's pressure recommendations for part and full load are followed, then the effect of wrong inflation pressure will be minimized-

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Factor		Importance	Remark
Vehicle	Drive concept	medium	Wear will be higher on the driven axle than on the free rolling axle. With front wheel drive, the wear is increased by the steering forces from the front axle. With rear wheel drive, there is more balanced wear relationship between the front and rear axles.
	Suspension Geometry (Camber/toe in)	strong	Badly adjusted steering and suspension geometry will have a strong negative influence on tyre life. It is normally recognizable as one-sided shoulder wear. Toe in and toe out have a very strong influence on tyre life expectancy.
	Engine power / Torque	strong	Vehicles with high power and high torque will reduce the tyre mileage dependant on how much the potential of the vehicle is used by the driver.
	Weight	medium	Heavy vehicles require more force to brake, accelerate and corner. This often leads to increased tyre slip and more rapid wear.
Road surface		medium	The influence of the road surface is relatively low when the car is being driven carefully or normally. A rough, high friction road surface can severely reduce tyre life if the vehicle is driven aggressively.
Road topography		strong	Curved, winding and hilly roads increase the stresses on the tyres. Braking, acceleration and cornering forces create significantly more tyre slip. The consequence is increased wear and less tyre life.
Ambient temp.		medium	The chemical and physical properties of summer and winter tyres are optimized for their appropriate operating temperatures. At low temperatures (under 7°C), summer tyres wear more quickly. The same applies to winter tyres used at high temperatures.