

# TYREAware



EUROPEAN  
TYRE & RUBBER  
manufacturers'  
association



# TYRE AWARE



The European Tyre and Rubber Manufacturers' Association (ETRMA) is the voice of the tyre industry in Europe, with a primary objective of representing the regulatory and related interests of manufacturers at European and international levels.

Along with its members, the ETRMA is committed to reducing environmental impacts from tyres while ensuring high standards for safety-related performance of tyres.

The organisation is made up of individual manufacturing companies and national tyre associations that endeavour to enhance the industry by informing policy and educating across areas such as the economy, health and safety, environmental protection and transport.






The ETRMA has worked with the EU Commission and other relevant institutions on behalf of the tyre industry to facilitate the introduction of the EU tyre label,

in order to provide consumers with the necessary information about safety and other tyre performances.

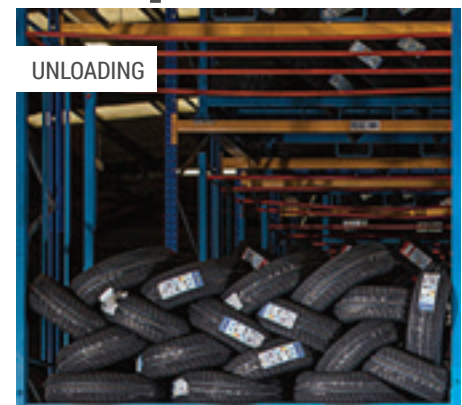
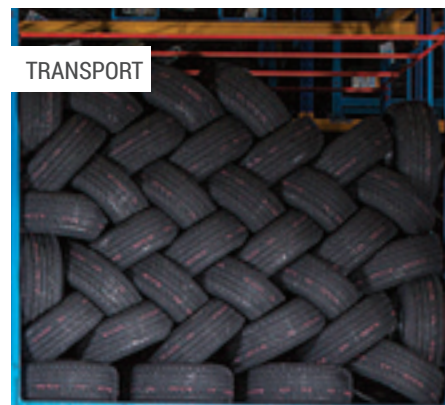
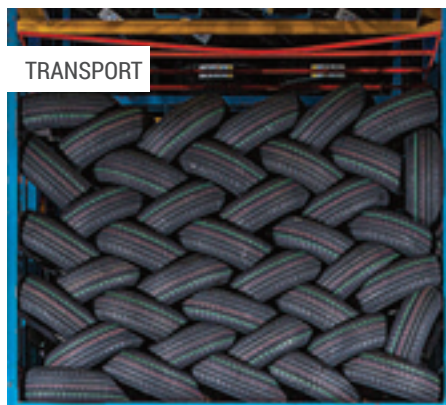
In the effort to promote good practice it has created basic guidelines and recommendations for tyre dealers and consumers which are shared in this media pack. The pack contains materials intended to help the value chain to share best practices about tyre handling and storage, service life and basic tyre safety and maintenance for consumers.

All of the materials, including translated stories, hi resolution images, infographics and broadcast quality video are available online.

**Reader's Guide:**

-  Car
-  Light Truck/Van
-  Bus/Large Truck
-  Tractor
-  Motorcycle

learn more about the EU Tyre Label by visiting:  
[www.etrma.org/tyres/tyre-labelling](http://www.etrma.org/tyres/tyre-labelling)





## Do's & Don'ts - How to store tyres



The tyre industry in Europe is one of the most sophisticated in the world, from the manufacturers who develop technologically advanced tyres for passenger and commercial vehicles, to the networks of specialist tyre dealers who supply and maintain tyres to keep the European traffic travelling safely.

Every tyre that leaves an ETRMA member's factory is quality checked according to very strict regulations and is then transported under optimal conditions to the locations where it is going to be fitted.



Once tyres leave the factory, manufacturers no longer have control over the conditions that they are stored in. Whilst tyres are very durable and resistant to most things that they encounter, it is important that they are stored in the right conditions. This is to ensure that when they are fitted to a vehicle, they are in the very best condition that they can be.

There are some very simple guidelines, issued by the European tyre industry<sup>1</sup>, to help dealers keep their valuable stock ready to use.

Tyres need to be stored in relaxed conditions, free from tension, compression or other forces that might cause permanent distortions. An effective way to do this is by stacking tyres upright, side by side on shelves. An easy alternative is to stack them on top of each other, but not too high. This can make it more difficult to get to the tyres towards the bottom of the pile and can add to the number of times that a tyre has to be handled whilst in storage. This is not detrimental to the tyre, but it is awkward and time consuming for the person who has to keep moving the stacks. Tyres that are stacked in this way should not be placed directly on the floor, but on a pallet or something that insulates the tyre from the temperature and potential damp of the floor.

The physical conditions of the space that tyres are stored in are important, but not complicated. The room should be 'room temperature', not too hot or cold. The room should be ventilated and the tyres should not be exposed to direct sunlight. Tyres should not share storage space with chemicals, cleaning products or oil.

Dealers have their own systems for their tyre inventory, deciding how it is best for them to store their stock, whether it is arranged by manufacturer or by size for example.

Tyre specialist Peter Buijs, who runs a dealership in Amsterdam, offered this advice:

*"When dealing with storage, there are some simple things that you can do to keep the stock you need in the place you need it. First of all, just for good housekeeping, make sure that you put away your delivery of tyres as soon as they arrive.*

*In order to increase efficiency in your storage facility, dealers should implement a 'first in-first out' stock rotation system.*

*We store our tyres according to manufacturer and size and also according to speed rating. It would be too easy for a junior colleague to mix up speed ratings. Tyre fitters are all trained and check the tyres before they are fitted, but storing in this way can save someone having to go back to the rack and swap the tyre for the right one.*

*We also train our staff to handle tyres in the right way. They can be heavy and awkward to handle if not done in the correct way. It is sensible to stack the larger sizes and run flat tyres lower in the rack because these are the heaviest."*

The rules of tyre storage apply to new tyres and to ones that are being stored while not needed, for example in countries where vehicles are required to change from summer to winter tyres.

The ETRMA is also asking tyre dealers to inform their customers on how to store their spare set of tyres. If wheels and tyres are to be stored as a complete unit, with the wheel and tyre together, the tyres should remain inflated and ideally wheels and tyres stacked on top of each other. If the tyres are mounted on wheels, it is also possible to hang the wheels and tyres from a wall, as long as the hook that you hang it from causes no damage to either the wheel, or tyre.

<sup>1</sup>European Tyre and Rubber Manufacturers' Association (ETRMA) and the European Tyre and Rim Technical Organisation (ETRTO)



The ETRMA has produced this handy guide to storage which is available to download and can be printed for display within dealerships as a convenient reminder of the correct way to store tyres.

### DO

- ✓ Store in weak artificial light
- ✓ Keep at a constant room temperature
- ✓ Store in dry conditions
- ✓ Store in uncrowded storage rooms
- ✓ Store mounted tyres in an upright position, free from any tension
- ✓ Ensure that the storage facilities are properly ventilated.

### DO NOT

- ✗ Store in direct sunlight or high ultraviolet light
- ✗ Keep in very hot or very cold temperatures
- ✗ Store in moist or damp conditions
- ✗ Store tyres near electrical machines that may produce sparks
- ✗ Keep in storage rooms with solvents, fuels, lubricants, chemicals, acids or disinfectants
- ✗ Stack stock or store in a way that causes compression or permanent distortion.

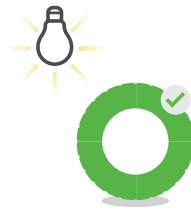
### DEALERS BEST PRACTICE TIPS:

- ! Store on racks
- ! Store by speed rating
- ! Stock frequent demand on easy-to-access shelves
- ! Stock larger tyre sizes on low shelves
- ! Implement a 'first in-first out' stock rotation system
- ! Make sure that all staff are properly trained and informed of the correct procedures when handling stock.

# Storing tyres correctly

download infographic: [www.tyreaware.org/storing-tyres-correctly](http://www.tyreaware.org/storing-tyres-correctly)

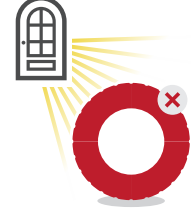
## LIGHT:



DO keep in weak artificial light

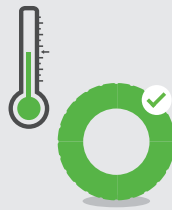


DON'T keep in strong artificial light with high UV content



DON'T keep in direct sunlight

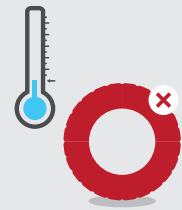
## TEMPERATURE:



DO keep at room temperature



DON'T keep in very hot conditions

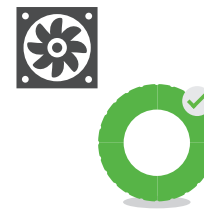


DON'T keep in very cold conditions

## ENVIRONMENT:



DO keep dry



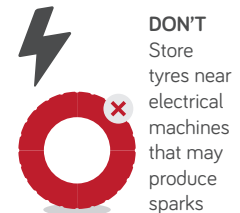
DO keep in ventilated areas



DON'T keep in moist, wet or damp conditions

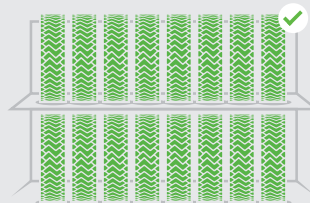


DON'T store near solvents, fuels, lubricants, chemicals, acids or disinfectants



DON'T Store tyres near electrical machines that may produce sparks

## STACKING:



DO store mounted tyres in an upright position, free from any tension. A rotation of stock should be implemented



DON'T stack stock or store in a way that any forces may cause compression or permanent distortion

# Facts on tread depth

The Tyre Industry is calling for drivers to carry out simple safety checks on the tyres on their vehicles to ensure that they remain safe and comply with the law.



Tyres are the only element that connects the vehicle to the road and a tyre relies on its tread pattern to provide grip for stopping, steering and driving the vehicle along. Passenger tyres with less than 1.6mm of tread are dangerous and illegal. If a car did drive on tyres that are below this threshold, the speed at which hydroplaning begins would be reduced by up to 40%. This is one of the reasons why a tyre must be removed from service when the tread depth is at 1.6mm.

Drivers should regularly check the depth of their tyres' tread - a simple process that can be done using tread wear indicators. These indicators are built in every tyre. Many motorists do not realise that they need no special equipment to check their tyres.



A Tread Wear Indicator is a rubber moulding raised above the base of the tread groove - and when the adjacent tread has worn down to the minimum level, the tyre should be changed.

Consumers can also check their tread depth using a euro coin (20p coin for UK), whose external golden rim should be covered by the tread. All four tyres must be checked and they must be checked in each groove in at least two points.

In order to maximise performance and safety, drivers must comply with the EU tyre tread regulation. For winter tyres, national regulations, including tread depth, differ from country to country.

Furthermore, there is the need to conduct regular visual checks to make sure they are within the legal limit. Tyres should also be inflated to the correct pressure, according to the vehicle manufacturer's recommendations.



learn more by visiting:  
[www.tyreaware.org/tread-depth](http://www.tyreaware.org/tread-depth)



# Correct inflation



There are various factors which can affect the performance and life of a tyre. The European tyre industry is encouraging consumers to recognise and understand the importance of properly inflated tyres.

Tyres that are correctly inflated have a higher safety performance, lead to more fuel-efficient driving and are more environmentally-friendly. The recommended tyre pressure is supplied by vehicle manufacturers and can be found in various places on the vehicle. Dealers are urged to properly educate consumers on the correct tyre pressure for their particular set of tyres.

*Incorrect tyre pressure - in particular, tyres that are under-inflated - can have a negative impact in many ways. Improper tyre inflation can:*

- Reduce road-holding
- Cause irregular wear
- Damage the tyre internally
- Result in tyre failure
- Cause the tyre to overheat
- Shorten the service life of the tyre
- Increase braking distance

There are certain factors, such as overloading and excessive cornering speed, that will cause further damage to the tyre and ultimately result in tyre failure.

Alternately, if a tyre is overinflated it can also be more susceptible to damage. Drivers are urged to remember that inflation pressure reduction through permeation, weather changes and damage to the rim, valve or tyre can cause changes to tyre pressure.

The European tyre industry suggests that drivers check with a calibrated pressure gauge at least once a month in order to ensure proper performance. Tyres can be inflated at tyre dealers, service centres and petrol stations. Ideally, this should be checked at the start of your journey, as warm tyres may give different readings.

Drivers must take into account the actual load of the vehicle as indicated in the vehicle information manual, inside the vehicle door or fuel cover, or in the glove compartment.

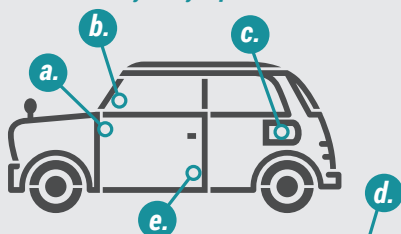
A tyre pressure monitoring system (TPMS) is a valuable tool that reduces the risk of driving with under-inflated tyres - warning drivers when the pressure changes.

TPMS is mandatory in new cars in the EU, with the tyre industry keen to see this extended to commercial vehicles.

The ETRMA suggests that drivers properly check their tyre pressure to ensure maximum road safety and increase the tyre's performance and service life.



## Where to find your tyre pressures:



- a.** In your glove compartment
- b.** The pressure warning light on your dashboard
- c.** Inside the fuel cover
- d.** Inside the car user manual
- e.** Inside your door



The importance and benefits of correct tyre inflation is easily demonstrated by the wheelbarrow experiment. A wheelbarrow with a heavy load is easily pushed with properly inflated tyres. That same load becomes increasingly more difficult to control and manoeuvre if the tyres are under inflated. Learn more by visiting:

[www.tyreaware.org/correct-inflation](http://www.tyreaware.org/correct-inflation)

# If you feel something, have a look - No big bump or pothole should be ignored



Most drivers will know the feeling - that sound or shudder when a wheel hits a gaping pothole.

A sensible driver will pull over as soon as safely possible to check for any damage to the tyre. If a severe impact occurs, the tyre should be removed and examined by a specialist as soon as possible. Better still, of course, is for drivers to take notice of road conditions, drive cautiously and look out for debris and potholes.

Some damage is immediately apparent - a bulging tyre wall or gash to the surface, for instance. But collisions with kerbs, potholes and debris can also cause internal damage which, like the obvious damage, will pose a major risk to safety. Hitting a pothole can result in various tyre and wheel problems. Initial impact can cause buckled wheels, as well as cracks and lumps in a tyre.

The tyre industry recommends that drivers take to the road with caution.



*In order to avoid potential pothole damage, drivers should always:*

Be alert



Maintain a safe distance between the driver ahead of you



Stay alert of traffic or pedestrians before changing course to avoid a pothole



Always watch your speed



Avoid unnecessary braking



Make sure to hold the wheel correctly to ensure maximum control and performance



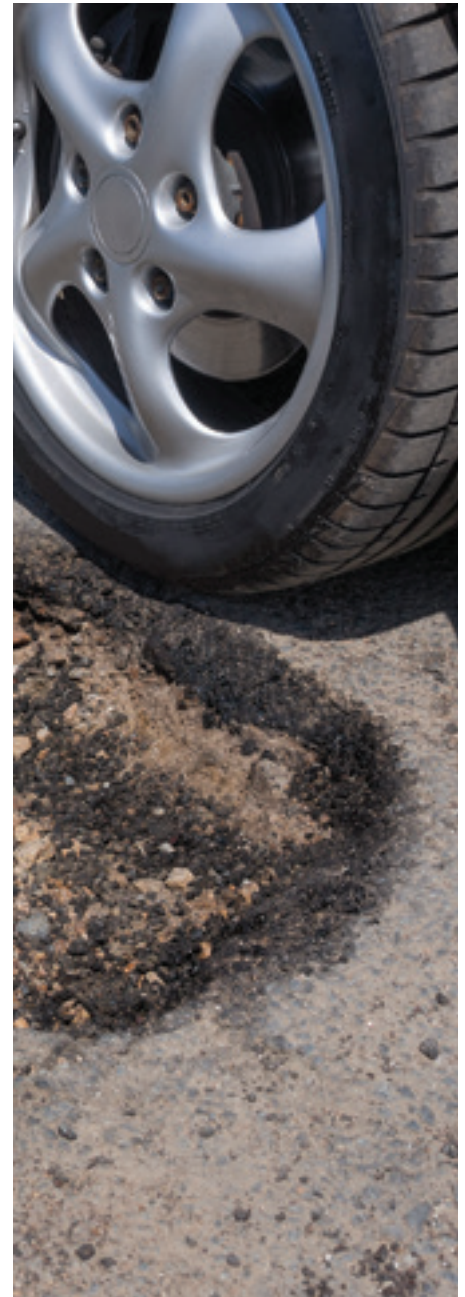
Regularly check tyre pressure. The correct pressure can be found inside the fuel cap, in the vehicle handbook, and/or on the driver's side door frame.



But let us be realistic, it is a rare driver indeed who has never had cause to worry. What is crucial is acting responsibly on such occasions and making sure all is safe



Ask an expert.



learn more by visiting:

[www.tyreaware.org/bumps-and-potholes](http://www.tyreaware.org/bumps-and-potholes)





## Inside look: Winter tyres

Across Europe, winter conditions are being addressed with increasing attention locally. With plunging temperatures, heavy snowfall and icy roads, there is an increasing demand for drivers to switch to winter tyres. The Tyre Industry is strongly recommending, according to local regulations, the use of winter tyres to help drivers cope with hazardous winter driving conditions.

There are significant and complex differences between winter and summer tyres which allow a vehicle to drive with an increased ease and safety on icy and wet roads. Winter tyres represent a product segment featuring specific tyre technologies aimed at optimal driving behaviour in snow, ice and generally lower temperatures.

A combination of special compounds and tread patterns specifically designed for challenging winter conditions significantly improves a tyre's grip and traction. The statistics are strong in support of fitting winter tyres in appropriate climate conditions.

In 2009, Belgian national committee, Pneuband, carried out a series of tests proving that a vehicle fitted with winter tyres travelling at 90km/h in wet conditions when the temperature is 2°C, will come to a standstill 11 metres earlier than a vehicle with summer tyres. In snowy conditions, a vehicle with winter tyres travelling at 50km/h breaking speed will stop 31 metres earlier compared to 62 metres for a vehicle with summer tyres<sup>2</sup>.

Beyond the generic M+S snow tyres, winter tyres for use in severe snow conditions must have a minimum level of performance on snow for both braking and traction. If a tyre passes the respective test, it can be marked with the three-peak mountain snowflake symbol.

Drivers in Nordic countries and Russia should make sure to equip their vehicles with Ice Grip or Nordic tyres to withstand the extreme snow and icy roads. These can either be studded or non-studded tyres, which are also referred to as soft compound winter tyres.

Data taken from a recent industry campaign shows that the use of winter tyres on passenger cars can reduce the number of accidents caused by lack of grip in winter conditions by 46%. To maximise performance and safety, each wheel should be fitted with a winter tyre.

When only one axle set of winter tyres is replaced, it is recommended to install the winter tyres on the rear to maintain control and grip.

Drivers are advised to fit winter tyres in advance of the arrival of winter in order to be fully equipped for the change in driving conditions.

The European tyre industry states that by using the correct tyres for each season, drivers can increase the lifetime of their summer and winter tyres and enjoy a greater level of safety and performance.



learn more by visiting:

[www.tyreaware.org/winter-tyres](http://www.tyreaware.org/winter-tyres)



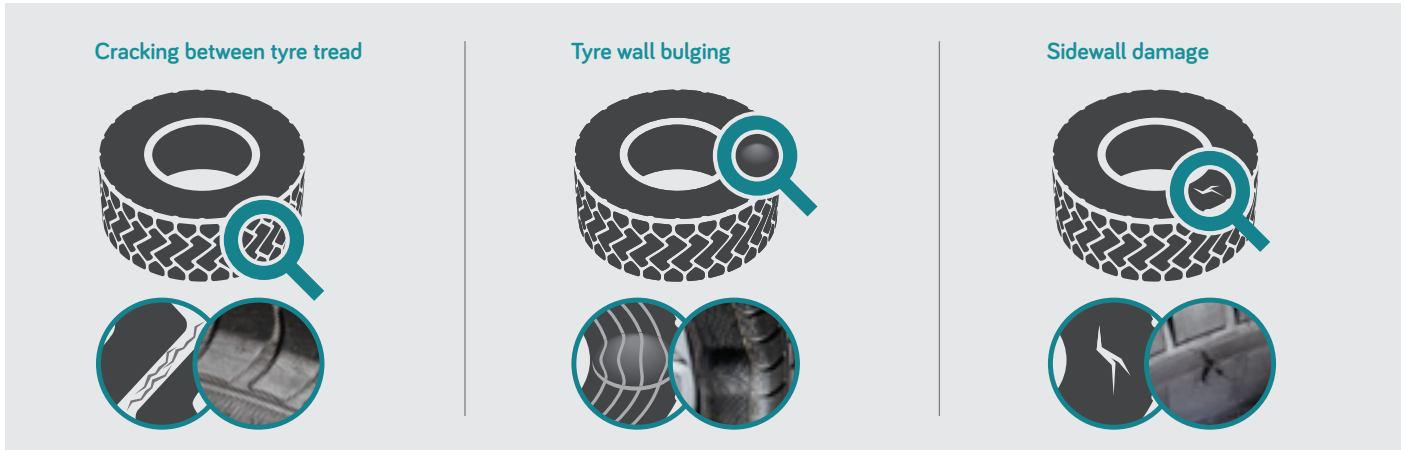
<sup>2</sup>Pneuband, Federauto, test conditions: Continental, VW Golf, 205/55R16, breaking speed 50-0 km/h, -5, 2009





## Facts & figures on service life

Tyres are not food and therefore do not have a “best before date”. The service conditions the tyre has been subjected to will affect the service life, such as load, speed, inflation pressure, road hazards and damage. The serviceability of a tyre over time is a function of how the tyre has been stored, for instance temperature, humidity and position.



A tyre's service life is affected by the conditions in which it has been used. Since these conditions vary widely, accurately predicting the service life of a tyre at manufacture is not possible. Although, the older a tyre, the greater the chance it will need to be replaced due to service-related conditions, or just through wear.

Tyre dealers and drivers both have a huge part to play in ensuring that tyres perform safely. There are plenty of ways to positively influence tyre life and to check that they remain safely usable.

Tyres should be removed from vehicles if the tread level is worn to the minimum depth according to legislation. They should also be removed if there are signs of cuts, cracks, bulging or sun damage; or if there are signs of abuse, such as under-inflation or overloading.

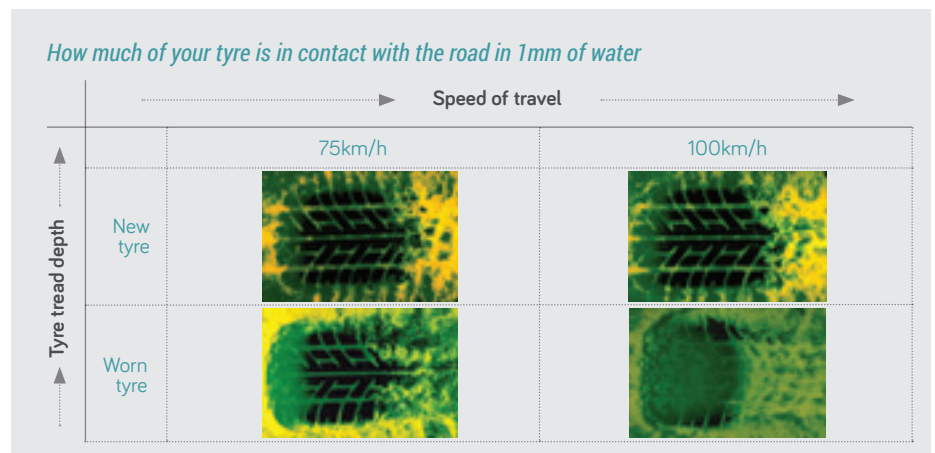
Because tyres face so much use, it is recommended to have all tyres (including spares) fitted to cars, motorcycles, light trucks, caravans, trucks, trailers and tractors inspected regularly. The industry emphasises the user's' role in care and maintenance. A properly maintained tyre is a long lasting tyre.

It is industry's recommendation that consumers inspect tyres on a monthly basis - checking for inflation pressure and tread wear as well as implementing recurring rotation, balancing and alignment. Consumers should also use their hands and eyes to look out for signs that a tyre may need replacing.

These recommendations and guidelines cannot ensure that a tyre does not exhibit an undetectable internal condition that may render them unacceptable for continued service.

Drivers should also be aware of increased noise or vibration - both possible indications that a tyre may need replacing, or of mechanical wear that can cause tyre problems.

Vehicle and tyre manufacturers work together to create products that have a good and safe service life, with increasingly complex technology being built in. For both the vehicle and its tyres to perform efficiently over a long service life, maintenance is essential.



learn more by visiting:

[www.tyreaware.org/service-life](http://www.tyreaware.org/service-life)



# The spare truth -

## The importance of maintaining your spare tyre.

The European tyre industry urges drivers not to take their spare wheels for granted and to check the integrity of the spare tyre regularly. Having a serviceable spare wheel can make the difference between a flat tyre being a quick inconvenience and a vehicle spending hours and hours off the road.

There was a time when spare wheels were identical to, and interchangeable with, all those on the vehicle. Most vehicle manufacturers are increasingly supplying spare wheels that are different in appearance and size to the normal wheels.

These 'emergency' spare wheels are usually subjected to some speed and distance condition, detailed on the wheel itself.

Typically there will be a maximum speed of 80km/h because a mismatched wheel may compromise the vehicle's handling and dynamics, especially at higher speeds.

There might also be limitations on the spare's position on a vehicle and a maximum distance for which it can be used. It is also becoming more common for vehicle-makers not to provide spare wheels at all. All temporary-use spares are only intended as an emergency replacement to get the vehicle to a repairer.

It is becoming increasingly more common for vehicles not to be fitted with spare tyres, but with alternative solutions for mobility such as run flat tyres or tyres with built-in-sealants.

Drivers should take note of what their vehicle is equipped with in order to be prepared for any emergencies.

After a puncture, it is important to get the tyre repaired or replaced straight away and to take advice from the tyre dealer on repositioning the wheels on the vehicle.

As well as being good practice to maintain a spare tyre, it is also a wise move to prevent you being stranded at the roadside. Some motoring organisations will make an extra charge to motorists who do not have a usable spare wheel after they have been called to a breakdown because of a puncture.



## How can drivers thoroughly inspect their tyres?

Every driver has a responsibility to visually inspect their tyres, tread depth and tyre pressure in order to ensure maximum road safety and tyre performance. Checking tyre tread depth is easily done by looking at the Tread Wear Indicators, which can be found in around six places on the tyre. For the uninitiated, a TWI is a rubber moulding raised above the base of the tread groove - when the adjacent tread has worn down to the minimum level, the tyre should be changed.

The EU stipulates a minimum tread depth of 1.6mm in passenger car tyres. Check all of the grooves. Inadequate depth can pose a safety hazard. As always, when in any doubt speak to a specialist. Drivers are encouraged to take their vehicles for regular tyre inspections at dealers.

Drivers must consult a specialist immediately if they spot any blisters, ruptures or cuts exposing the casing on a tyre - or if a tyre has undergone a violent impact that might have caused internal damage. A bump against the kerb or encounter with a pothole can cause such damage, which can affect on the safety of a tyre.

Tyres showing signs of ozone-cracking - those unsightly gashes or webs of fissures - should be replaced. Drivers should check regularly their tyre inflation pressure - it is important both for safety and fuel-efficiency.



# When is the right time to replace your tyres?

Purchasing a new set of tyres is a necessary investment to ensure vehicle safety and maximise performance. The tyres are the only element that connects a vehicle to the road and maintaining safety means maintaining tyres.

A good, properly maintained set of tyres contributes a huge amount to the performance and economy of a vehicle and the safety benefits outweigh the cost. To not replace worn out or damaged tyres can lead to serious safety consequences.

Dealers and consumers both have a vital role to play in tyre safety and there are several factors that can compromise the safe performance of a tyre. Drivers can easily carry out most of the planned maintenance on a tyre during its service life, only referring to a specialist dealers when there is a problem, or when it is time for replacement.

Though modern tyres are strong, punctures still happen and it is crucial a tyre specialist should carry out a check to see if a punctured tyre should be scrapped or can safely be repaired.



If the tyre has any signs of fatigue then a tyre should not be on the road. There are many factors affecting how long a tyre will last, including vehicle type, surfaces and driving style, so drivers should be vigilant and carry out regular checks.

Roads are unpredictable places, sometimes strewn with sharp debris or blemished by rugged potholes that can damage a tyre. It is important to inspect for damage that any impact might have caused.

Abnormal or uneven tyre wear, may indicate a problem with wheel alignment, wheel balance or incorrect tyre pressure. Although it is sometimes not possible to know that a mechanical factor is affecting the tyres until undue wear has occurred, it is expensive to allow incorrect inflation to cause a tyre to wear badly or quickly.

For best performance, the same type of tyre should be fitted in all four wheel positions and any difference in recommended pressures between front and rear and load conditions should be adhered to. This is very important when switching from your summer to winter tyres.

It is essential that consumers check their tyres often and also have them inspected regularly by specialists or immediately if they spot any damage or fatigue.

Smart motorists get the most out of their tyres and their vehicle by performing regular maintenance which also includes recognising when they should be replaced.

The EU's legal limit for passenger car tyres tread depth is 1.6mm.











EU law ensures passenger cars, commercial vehicles and trailers are inspected regularly, through technical and roadside inspections. Tyres should also be checked during these inspections.

*The following conditions are reasons for failure of roadworthiness tests<sup>3</sup>:*

- Fitment of incorrect tyre size, overloading, missing or wrong approval mark, category not in accordance with requirements and affecting road safety
- Insufficient load capacity or speed category for actual use
- Tyres on same axle or on twin wheels of different size
- Tyres on same axle of different construction (radial/cross-ply)
- Any serious damage or cut to a tyre
- Cord visible or damaged
- Tyre tread wear indicator becomes exposed
- Tyre tread depth not in accordance with the requirements
- Tyre touches other fixed vehicle parts impairing safe driving
- Tyre rubbing against other components (flexible anti-spray devices)
- Tyre rubbing against other components (safe driving not impaired)
- Re-grooved tyres not in accordance with requirements
- Cord protection layer affected
- Tyre pressure monitoring system malfunctioning or tyre obviously underinflated
- Tyre pressure monitoring system obviously inoperative.

<sup>3</sup>Directive 2014/45/EU of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/ECC

# Corporate Members

# National Associations

				
BELGIUM Pneuband, Commission of tyre producers  <a href="http://www.pneuband.be">www.pneuband.be</a>	FINLAND Rubber Manufacturers' Association of Finland  <a href="http://www.kumiteollisuus.fi">www.kumiteollisuus.fi</a>	FRANCE French Rubber and Polymer Industry Association  <a href="http://www.lecaoutchouc.com">www.lecaoutchouc.com</a>	GERMANY Organisation of the German Manufacturers of Tyres and Technical Elastomers Products  <a href="http://www.wdk.de">www.wdk.de</a>	HUNGARY Hungarian Tire Association  <a href="http://www.hta.org.hu">www.hta.org.hu</a>
				
ITALY Italian Rubber Manufacturers' Association <a href="http://www.federazionegommaplastica.it">www.federazionegommaplastica.it</a>	NETHERLANDS Dutch Rubber Manufacturers' Association <a href="http://www.vereniging-nvr.nl">www.vereniging-nvr.nl</a>	POLAND Polish Tyre Industry Association <a href="http://www.pzpo.org.pl">www.pzpo.org.pl</a>	SPAIN National Association of the Rubber Industries <a href="http://www.consorciocaucho.es">www.consorciocaucho.es</a>	UK The British Tyre Manufacturers' Association <a href="http://www.btmauk.com">www.btmauk.com</a>



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