

Tyres

NEED TO KNOW

No other magazine tests tyres as thoroughly as we do. Before we started, we drove the equivalent distance of almost twice round the world to run our tyres in – to ensure accurate, consistent results.

This year we've added an eco rating, based on a measure of polyaromatic hydrocarbons (PAHs), toxic additives used in tyre-making. These pollutants are released as a tyre wears, so this is one gauge of how environmentally sound a tyre is. Tyres can be made with near-zero PAH levels, without performance being impaired, and new legislation in 2009 will apply much tighter limits.

TYRE CLASSIFICATION

This is what the figures mean, using the 14-inch 185/60 R14 H as an example:
185 – Tyre width in mm
60 – Tyre sidewall profile – height-to-width ratio
R – Radial (not cross-ply)
14 – Diameter of the wheel rim, in inches
H – Speed rating, which must match, or exceed, the maximum speed of your car. H = 130mph (210kph)

For the 17-inch tyres tested, the speed ratings are: W – 167mph (270kph); Y – 186mph (300kph).

SAFETY NOTE

Never fit tyres of a different size, load or speed rating from the manufacturer's specifications. Don't mix tyre types without checking the handbook or asking a dealer.



BEST BUYS

All the tested tyres are safe, but our Best Buys offer the best balance between essentials, such as dry and wet grip, and desirables, such as quietness and wear rate. The worst performers for wear last for just over half the mileage of the best performers.

We also tested rolling resistance. All tyres performed acceptably, but there was little difference between tyres of the same size.

We've also included an environmental rating (see 'Need to know', left), and indicated which tyres are widely available and which you may have to hunt for.

17-INCH

Tyres with the specification 225/45 R17 W/Y are fitted to medium and larger cars, such as the Alfa Romeo 147, 156, 166 and Spider, Audi A3 and TT, BMW 3 series and Z4, Jaguar X-type, Mercedes-Benz C-Class and SLK, Renault Laguna, Saab 9-3 and 9-5, Seat Leon, Toledo and Altea, Skoda Superb, Subaru Impreza, Vauxhall Zafira, the VW Beetle, current Golf and new Passat.

This tyre size is rated poor for comfort because of its low

MERCEDES ORIGINALS vs REPLACEMENTS

Replacement tyres can perform better than factory-fit tyres from the same brand. Two of the 17-inch tyres we tested are factory-fit tyres on a Mercedes C-Class. The replacement tyres you get if you ask a retailer for the 'same' tyre have the same reference number, but a different suffix. The tread is different (see photos) but, more importantly, both replacement versions outperform the originals. For the replacement Michelin (9), right, the differences are less marked. However, wear on the original Bridgestone (15) is best in its size, but it lacks wet grip. In contrast, the replacement Bridgestone (2) is top for wet grip and performs well overall.



sidewall profile (see 'Comfort and noise', opposite).

The **Michelin (1)** offers excellent grip on dry roads and is fairly good in the wet. It's quite expensive, but it lasts well, so still represents good value per mile. It's widely available and Michelin looks to be on track for meeting the new PAH environmental standard with it.

The **Bridgestone (2)** offers wet grip that's among the best in the class and gives balanced overall performance. It's a quiet ride, but Bridgestone still has work to do to make its tyres greener.

The **Continental (3)** is excellent in dry conditions and good on wet roads, too. It has a good eco score and it

should be reasonably easy to find.

The **BFGoodrich (4)** is very good on a dry road, but wet grip is slightly weaker – it's more likely than other Best Buys to aquaplane. It is a little noisier than other Best Buys, and may be harder to find, but is a good choice for eco-friendly drivers.

The **Pirelli (5)** also grips well on both wet and dry roads and is almost the quietest in its class. Pirelli has lots to do to meet future eco targets.

14-INCH

The 185/60 R14H are fitted to many small and medium cars, including the Chevrolet Kalos, Fiat Punto, Ford Fiesta,

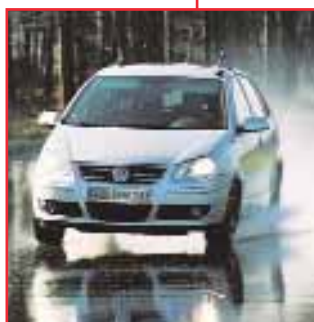
**BEST
ON
TEST**

16 Bridgestone 185/60 R14

TREAD PATTERNS

How well a tyre grips the road surface depends primarily on the rubber compound and the grooves that form the tread pattern.

The tyre parts that are in direct contact with the road do the work. However, in wet conditions – where this Bridgestone scored well – the water lessens the contact between the tyre and the road, reducing grip, and the grooves are designed to expel water from between the tyre and the road. Each manufacturer designs its own tread pattern to achieve this.



COMFORT AND NOISE

Comfort

Ride comfort depends on the volume of air in the tyre and its profile. This is the ratio between the sidewall height (distance from metal rim to edge of tyre) and its width. The sidewalls act like a spring, cushioning the car's weight. Tyres with a high profile (above, right) will be more comfortable than tyres with a lower profile (above left).

On low-profile tyres, the sidewalls are quite stiff, generally giving a less comfortable ride. However, the stiffer sidewalls of low-profile tyres mean the vehicle has less sideways movement in a bend (right). If the tyre grips well, this provides better handling than higher-profile tyres.

Noise

Most tyre noise comes from the tread as it comes into contact with the road. So the hardness of the rubber, the shape of the tread and the squareness of the tyre's shoulders (the edges of the tread in contact with the road) influence the noise.



Buying tyres

Check your tyres' details in your owner's handbook, then ask local retailers for quotes. Check they've included new valves, fitting and balancing, and any tracking necessary.

Or you can buy online. In January 2006, we asked 59 readers who've done this for their opinion, and more than eight in ten said they'd do it again. Sites include www.blackcircles.com,

www.etyres.co.uk,
www.eventmobiletyres.co.uk,
www.mytyres.co.uk and
www.pneus-online.co.uk

Buying online saves time, money and hassle. Some companies offer a full fitting service at home or work, while others direct you to a retailer where your tyres can be fitted. Others deliver your tyres to a retailer of your choice.

Honda Civic, Mazda MX-5, Renault Mégane, Seat Ibiza, Toledo and Cordoba, Skoda Fabia, Vauxhall Astra and older VW Golf and Polo models. This size is rated good for comfort.

The **Bridgestone (16)** is a well-balanced tyre, with the best dry grip in this size, and excellent wet braking. It's one of the quietest tyres in this group and will give a reasonably long life. It isn't the most eco-friendly, but it's better than some.

The **Pirelli (17)** competes well for grip and wear, though isn't as good as the Bridgestone for braking in the dry. Pirelli still has a lot of work to do to meet the new PAH standards.

The **Nokian (18)** wears well and offers good dry grip, but it

falls slightly short on grip in the wet, both on the straight and on corners. Nokian is well on the way to meeting the PAH targets. It may be hard to find.

The **Continental (19)** handles very well in the dry, and in the wet it's good on a bend, but it's slightly lacking in its resistance to aquaplaning on a straight road. It wears more quickly than other Best Buys. Its environmental rating is very good, and you should easily find it locally.

The **Vredestein (20)** wears well and is good in the wet. For straight-line dry braking, however, it falls short of the best. Vredestein needs to do a lot of work to meet the new PAH standards. Finding this tyre might be tough.

41 more tyres on test

If the tyres we've tested aren't the right size for your car, you can see results for other sizes at www.which.co.uk/tyres, including 165/70 R14 T, 175/65 R14 T, 195/65 R15 H and the

205/55 R16 V – see below for our Best Buys.

You'll find lots more 'choosing and using' advice, including tips on tyre maintenance.

Last report Mar 2004

Size/specification	Best Buy	Price (£)	Dry road	Wet road	Score (%)
165/70 R14 T	Continental EcoContact 3	43-47	☆	★	67
	Bridgestone B330 Evo	51-53	☆	★	66
	Michelin Energy E3A	51-54	☆	★	65
175/65 R14 T	Pirelli P3000 Energy	43-48	☆	☆	70
	Continental EcoContact 3	45-47	☆	☆	67
195/65 R15 H	Bridgestone Turanza ER300	67-70	☆	☆	70
	Goodyear Hydragrip	68-69	☆	☆	66
205/55 R16 V	Bridgestone Potenza RE 720	91-104	★	☆	72
	Michelin Pilot Exalto	94-99	★	☆	71
	Firestone Firehawk TZ 200	78-84	☆	☆	68
	Pirelli P7	87-93	☆	☆	68

USED OR

PART-WORN

You may see used or second-hand tyres for sale. Used or part-worn tyres may have been damaged during use.

No matter how temptingly low in price these are, when their history or source is unknown we would strongly advise you to avoid them, as any internal structural damage – even if not visible – can compromise safety.

MICHELIN

TYRE RECALL

Michelin has issued a recall for its 255/35 ZR 20 97Y Michelin Pilot Sport Extra Load tyres, as a precautionary measure. In some cases there could be a rapid loss of air pressure, which could be a potential safety risk.

Just 29,000 have been produced since 2000, and they have been standard on some Audi A8 and Jaguar XJ8 models in recent years.

For further information, call 0800 056 7200, or 01 459 5955 in the Republic of Ireland.

17-INCH TYRES

14-INCH TYRES



USING THE TABLE

We tested premium and budget tyres from mainstream producers. The test scores cannot be compared between different sizes.

Specification

Speed rating See 'Need to know', p68. **Price range/Availability** Between November 2005 and February 2006 we checked price and availability at five national, ten regional and 20 independent retailers. The latter tend to offer cheaper prices but their range may not be as wide as national outlets. ✓✓✓ means available in over 60 per cent of outlets we checked. ✓✓ means available in 30 to 60 per cent of outlets. ✓ means available in less than 30 per cent of outlets.

17-inch (225/45 R17)

MODEL

	Specification			Performance								Score (%)
	Speed rating	Price range (£)	Availability	Dry handling	Dry braking	Wet braking	Wet grip (straight)	Wet grip (bend)	Wear	Noise	Eco rating	
1 Michelin Pilot Sport PS 2	Y	129-147	✓✓✓	★	★	☆	☆	○	★	☆	○	73
2 Bridgestone Potenza RE 050 A	Y	114-136	✓✓✓	★	★	☆	☆	☆	☆	☆	●	71
3 Continental SportContact3	Y	114-141	✓✓	★	★	☆	☆	☆	☆	☆	☆	70
4 BFGoodrich G-Force Profiler	Y	102-134	✓	★	★	☆	○	○	☆	○	☆	68
5 Pirelli Pzero Nero	Y	111-140	✓✓✓	★	★	☆	☆	☆	☆	☆	●	68
6 Goodyear Eagle F1	Y	103-129	✓✓✓	★	★	☆	☆	☆	☆	☆	●	65
7 Semperit Direction Sport	W	84-105	✓	☆	☆	○	☆	☆	☆	○	☆	65
8 Dunlop Sport Maxx	Y	106-137	✓✓✓	★	☆	☆	☆	○	☆	☆	●	64
9 Michelin Pilot Sport MO	Y	see ^a		★	☆	○	☆	○	☆	○	☆	64
10 Vredestein Ultrac	W	87-94	✓	☆	☆	☆	☆	★	☆	○	●	64
11 Uniroyal Rainsport 1	W	94-111	✓✓	☆	★	☆	☆	☆	○	○	☆	63
12 Kumho KU 19	Y	83-95	✓✓	☆	☆	☆	○	○	○	☆	●	60
13 Nokian Z	W	130	✓	☆	★	○	○	○	○	○	☆	59
14 Fulda Carat Exelero	Y	84-100	✓	☆	☆	☆	☆	☆	○	☆	●	58
15 Bridgestone Potenza RE050 MO	Y	see ^a		★	★	○	☆	○	★	☆	●	57

^a These are the tyres Mercedes fits when it builds the C-Class. They may be available by special order from a Mercedes dealer

14-inch 185/60 R14

MODEL

	Specification			Performance								Score (%)
	Speed rating	Price range (£)	Availability	Dry handling	Dry braking	Wet braking	Wet grip (straight)	Wet grip (bend)	Wear	Noise	Eco rating	
16 Bridgestone Turanza ER300	H	49-55	✓✓	★	☆	★	○	☆	☆	☆	●	70
17 Pirelli P6	H	47-53	✓✓	★	○	☆	○	☆	☆	○	●	65
18 Nokian NRHi	H	41	✓	☆	☆	☆	○	○	☆	○	○	64
19 Continental EcoContact 3	H	48-55	✓✓✓	★	○	☆	○	☆	○	☆	☆	63
20 Vredestein Hi-Trac	H	39-49	✓	☆	○	☆	☆	☆	☆	○	●	63
21 Dunlop SP Sport 01	H	46-53	✓✓✓	★	☆	☆	○	☆	○	☆	●	62
22 Firestone Firehawk TZ200	H	41-48	✓✓✓	★	○	☆	○	☆	○	☆	●	62
23 Goodyear Excellence	H	46-52	✓✓	☆	☆	☆	○	○	○	☆	●	62
24 Kumho KH15	H	37-43	✓✓	★	○	☆	○	○	☆	☆	●	61
25 Uniroyal Rallye 550	H	42-53	✓✓	☆	○	☆	☆	☆	○	☆	☆	61
26 Barum Bravuris	H	37-45	✓	☆	○	○	☆	☆	☆	○	☆	57
27 Kleber Dynaxer HP 2	H	38-46	✓	★	☆	○	○	○	★	☆	●	57
28 Yokohama A-Drive	H	45-60	✓✓	★	○	○	○	○	☆	○	○	56
29 Semperit Speedcomfort	H	40-48	✓	★	●	●	○	☆	☆	○	☆	55
30 BFGoodrich Profiler 2	H	44-52	✓	★	★	○	○	●	★	☆	●	48

Performance

Dry handling How well the tyres handle in dry conditions. **Dry braking** How quickly the car stops in dry conditions when fitted with these tyres. **Wet braking** How quickly the car stops in wet conditions when fitted with these tyres. **Wet**

grip (straight) How well the tyres resist aquaplaning when driving in a straight line in wet conditions. **Wet grip (bend)** How well the tyres resist aquaplaning when driving round a bend in wet conditions. **Wear** How quickly the tyre wears. **Noise** How noisy the tyres are. **Eco rating** A chemical

analysis of the toxic pollutants that are added to the tyre during the manufacturing process.



SCORE

Ignores price and is based on:

Wet road grip	40%
Wear	24%
Dry road grip	20%
Rolling resistance	8%
Noise	4%
Environmental rating (PAH)	4%