

ULTIMATE TYRE TEST 2016



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AE IT'S been a busy year for tyre manufacturers; more than half of the contenders in this year's test only came to the market in 2016. Tyre development progresses at an astounding rate, and brands are continually doing their best to keep up with the latest patterns.

Manufacturers build their tyres to suit all aspects of performance, including the three main EU labelling criteria: wet grip, fuel efficiency and noise levels.

This year has seen new tyres in the fast-growing ultra-high-performance sector from established makers Goodyear, Dunlop, Michelin and Pirelli, plus Japan's Falken.

We put them up against proven top performers from Hankook and Continental, plus contenders from Yokohama and Vredestein. To see how the tyres fared, we headed for Pirelli's Vizzola proving ground near Milan, Italy, putting them through a total of nine critical assessments.

For the test, we returned to the biggest-selling size in the popular 18-inch sector: 225/40 R18.

And as one tyre maker recently admitted that it had supplied magazine tests with specially produced tyres, we asked companies to nominate what they would like tested, and then sourced them from the wholesale market.

The assessments were completed by Auto Express drivers, although aquaplaning and noise specialists got behind the wheel for those tests. Have the newcomers got what it takes to set a new benchmark in this sector? We reveal all over the next eight pages.

"Tyres are built to suit all aspects of performance, including wet grip, fuel efficiency and noise"

Our experts push the top-selling tyres to the limit to find the best for your car in our eight-page guide



**OVER
400
TESTS TO FIND
THE BEST**

What we tested

All tyres tested were sized 225/40 R18 with a Y speed (up to 186mph) and 92 XL weight ratings.

Tyre label ratings for fuel economy (rolling resistance, RR) and wet grip (WG) are ranked A-G, with A being the best. The pass-by noise (N) rating is done in decibels – the lower the better.

Continental ContiSportContact 5

Ratings RR: E WG: A N: 72

Dunlop SP Sport Maxx RT2

Ratings RR: C WG: A N: 68

Falken Azenis FK510

Ratings RR: E WG: A N: 69

Goodyear Eagle F1 Asymmetric 3

Ratings RR: C WG: A N: 67

Hankook Ventus S1 evo2

Ratings RR: E WG: A N: 71

Michelin Pilot Sport 4

Ratings RR: C WG: A N: 71

Pirelli P Zero

Ratings RR: C WG: A N: 72

Vredestein Ultrac Vorti

Ratings RR: F WG: B N: 70

Yokohama Advan Sport V105

Ratings RR: F WG: A N: 72

ULTIMATE TYRE TEST 2016

PERFORMANCE | ECONOMY | SAFETY UK's top tyres rated



Picking our champion

WE tested our tyres in a variety of situations at Pirelli's track in Vizzola, northern Italy, and headed to the nearby Circuito Tazio Nuvolari for the dry handling assessments. We converted our results to percentages, before adding up the figures to find our overall winner. Our scores were weighted to ensure each performance counted the same overall.

As we believe tyres should be chosen primarily on performance, price played a small role in the overall result. In individual categories, the winner was rated at 100 per cent and the rest were ranked relative to that performance.

PICKING THE BEST TYRES

The tests we carried out to name the finest rubber in the business

Wet handling

UNLIKE any other wet handling track we've used, Vizzola is a figure of eight circuit, with the crossover resembling a hump-backed bridge. It's a short route with lots of corners, which means the tyres constantly had to change direction and were given a true test. Average lap times determined the result.

Wet cornering

THIS test measured the pure lateral grip in the wet without aquaplaning or traction interfering. The technique required the same amount of steering lock to be applied, then accelerating the car until it could no longer hold the line around the flooded circle. We took an average time across seven laps to find our winner here.

Wet braking

STOPPING in the wet is when drivers are most likely to reach the limit of their tyres' performance. To find the most effective rubber, we did a series of stops from just

over 80kph (50mph) – measuring the distance taken to slow to 10kph (6mph), which removes any inconsistencies created by anti-lock braking system pulses. An average of eight stops gave us a result.

Straight aquaplaning

AQUAPLANING is when the tread can no longer pump out the water under the tyre, so it rides up on top of it and loses grip. Proving ground staff completed this test, as experience is needed to get the correct entry speed. The car accelerated with one wheel in water, and the point where it spins 15 per cent more than in the dry was recorded. An average gave us our champ.

Curved aquaplaning

ESSENTIALLY the same measurement as the straight test, but with those water-shifting grooves distorted through cornering. However, the technique is quite different, as the car is accelerated at even higher speeds through a curved flooded section until all

grip is lost. Lateral G-force is measured at each speed to form our ratings.

Dry braking

WE did the same series of stops as in the wet test, yet this time on grippy, dry tarmac. The same braking point and line was used to get a consistent result. This time we used the GPS system to measure the deceleration from 100kph (62mph) down to 10kph.

Dry handling

OUR test team decamped to the Circuito Tazio Nuvolari near Milan for the dry handling assessments, as there's no dry handling track at the compact Vizzola. The 1.7-mile circuit combines a variety of hairpins with longer turns and quick direction changes. An average of lap times was used to rank the tyres.

Rolling resistance

KEY for fuel economy, this measures the amount of power required to turn a loaded

tyre. Our test was done to industry standards, and the result is an average of two tyres. As a rough guide, a five per cent difference in rolling resistance will see a one per cent change in fuel economy.

Cabin noise

PROVING ground staff once again took over for this test, measuring noise levels in the front and rear of our car at 50mph. An average was taken of the two results, both on rough and smooth asphalt. This is a different test than the one used in tyre labelling, which is driven by environmental concerns and measures pass-by noise.

Price

THE days of phoning for a price when buying tyres only to be asked 'what have you been quoted?' are long gone, thanks to the arrival of online retailers. Our figures come from our tyre supplier test winner Black Circles and include delivery, fitting and disposal. They were correct at the time of going to press.

9 Vredestein Ultrac Vorti

AE INDIAN-owned Dutch maker Vredestein was once the king of the wet, but the latest generation of its tyres has failed to enhance its reputation. When the surfaces were wet, the Ultrac Vorti struggled and was some way off the pace set by newer designs.

It was furthest from the leaders in curved aquaplaning, although it was much closer in the straight test, where the tread can work without being distorted. Wet braking was also a concern, as the Vredestein needed around three metres longer to stop on average than the test-winning Michelin.

That lack of wet grip could be felt on the handling circuit, too, as it required more lock than rivals. Braking in the dry was closer to the best, but still only eighth. It fared best for dry handling, placing third.



Vredestein handled well in the dry, yet its display in the wet was disappointing



TEST RESULTS

Price	£102.50	
Dry handling	99.7%	3rd
Dry braking	95.1%	8th
Wet handling	98.0%	=5th
Wet braking	89.1%	9th
Wet cornering	97.1%	8th
Straight aqua	96.4%	9th
Curved aqua	79.3%	9th
Rolling resistance	85.3%	8th
Cabin noise	98.4%	=5th

Overall 96.2% 9th

VERDICT Oldest design on test – a replacement is needed

8 Yokohama Advan Sport V105

AE THE pace of tyre development is rapid in the modern era, so it's no surprise to see the two oldest designs at the bottom of the results. Yokohama's Advan Sport V105 showed its age most for fuel economy. Rolling resistance was never its forte, but it's around four per cent thirstier than the best.

Elsewhere, however, the Yokohama wasn't too far off the pace, even if there were several designs ahead of it. Its worst result was in wet braking, but even there it was within 10 per cent of our winner.

Behind the wheel, it lacked the liveliness of some rivals and required plenty of lock in the wet. It felt better on the dry track, though. Plus, it was one of the quietest tyres on test, leading the pack behind the remarkable new Pirelli for noise.



The Yokohama was very quiet on test, trailing only the new Pirelli for noise



TEST RESULTS

Price	£85.74	
Dry handling	99.3%	5th
Dry braking	97.5%	6th
Wet handling	98.0%	=5th
Wet braking	90.5%	8th
Wet cornering	97.6%	=5th
Straight aqua	97.0%	8th
Curved aqua	92.6%	6th
Rolling resistance	81.1%	9th
Cabin noise	99.0%	2nd

Overall 97.4% 8th

VERDICT Decent all-rounder but fuel economy poor by today's standards

7 Falken Azenis FK510

AE LAUNCHED earlier this year to cater for demand for ultra-high-performance tyres, Falken's Azenis FK510 might have expected to do better than seventh in this test. It wasn't as comfortable as some in the deep water of the aquaplaning assessments, particularly when those water-shifting grooves were twisted in the curved test.

Like the Vredestein, it was much closer to the best in the straight-line test. Oddly, it also struggled on dry roads, finishing last in dry braking and eighth for handling.

It felt very secure on the dry track, with the rear safely following the front, but it was soft and required a lot of lock. In the wet, it was closer to the best, finishing second behind the Michelin in braking. For a new tyre, fuel economy could have been better.



The Azenis FK510 shone during our wet braking assessments



TEST RESULTS

Price	£89.75	
Dry handling	98.7%	8th
Dry braking	94.9%	9th
Wet handling	98.0%	=5th
Wet braking	95.8%	2nd
Wet cornering	97.5%	7th
Straight aqua	97.5%	7th
Curved aqua	85.2%	8th
Rolling resistance	93.7%	6th
Cabin noise	98.8%	3rd

Overall 97.7% 7th

VERDICT Promising test debut in face of tough opposition

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6 Hankook Ventus S1 evo2

AE THERE'S no doubt Hankook has made great strides in recent years, making it on to standard kit lists for premium brands like BMW and Mercedes. We've also got used to seeing it hovering around the podium in our tests. So a sixth-place finish for its Ventus S1 evo2 is disappointing.

In fact, just like in our previous tyre assessments, the S1 evo2 was very close to a medal place, but just came up short. Even though the tyre is a couple of years old now, it's good at the pumps and matches our overall winner. It also fared well in the cabin noise test, although yet again it was just outside the podium places.

The compact wet handling track, with its series of similar turns, brought times closer together than usual. So despite finishing last for its performance in the wet, the Hankook was less than three per cent off the winner. It felt secure with no rear movement, but required more lock than some. Grip was lost progressively and was never concerning.

It felt better in the dry, with good front traction that allowed you to get on the power early, plus there was a sharp feel to the steering. The only area where the evo2 was further down the pecking order than Hankook would like was in wet braking, and even that score is skewed slightly by the impressive Michelin's performance.

Ventus S1 evo2 fared well in our curved aquaplaning assessment



TEST RESULTS

Price	£86.80	
Dry handling	98.9%	6th
Dry braking	97.1%	7th
Wet handling	97.3%	9th
Wet braking	91.4%	6th
Wet cornering	95.8%	9th
Straight aqua	97.8%	5th
Curved aqua	94.7%	4th
Rolling resistance	98.0%	3rd
Cabin noise	98.6%	4th
Overall	98.1%	6th

VERDICT Quiet, safe and won't cost you a fortune to run

5 Goodyear Eagle F1 Asymmetric 3

AE THIS test was the first time we had a chance to sample the Asymmetric 3, which Goodyear launched earlier this year via a webinar rather than the usual track event at its Mireval test facility. It replaces the Asymmetric 2, which was beginning to struggle in our tests, as it was nearing five years on the market.

Although the new tyre could only finish in fifth place, it significantly closed the gap on the front runners. As we've seen before, Goodyear has a decent handle on fuel economy and has carried the technology over to the Asymmetric 3; it finished just a few percentage points behind fellow newcomer Pirelli's P Zero.

It was also close to the leaders in both shallow and deep water, finishing fourth for braking and handling, plus fifth on the cornering steering pad and curved aquaplaning. The Goodyear felt agile around the wet handling track, yet while it hung on well through turns, it lost grip as the lock increased. In the dry, it felt a little softer and was noisy compared with others. It also seemed to be affected by the heat quicker than some and proved the slowest of all. Goodyear would no doubt like to have finished further up the table, but the results are very close and this is a decent step up from the outgoing tyre.

Goodyear came fourth for wet handling and was only just off our winner's pace



TEST RESULTS

Price	£95.76	
Dry handling	98.6%	9th
Dry braking	97.6%	5th
Wet handling	98.4%	4th
Wet braking	92.7%	=4th
Wet cornering	97.6%	5th
Straight aqua	97.6%	6th
Curved aqua	93.2%	5th
Rolling resistance	99.2%	2nd
Cabin noise	98.2%	7th
Overall	98.4%	5th

VERDICT Improved design keeps pace with development

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4 Dunlop SP Sport Maxx RT2

AE THERE was precious little to split the Dunlop SP Sport Maxx RT2 and Goodyear's Eagle F1 Asymmetric 3, but the former just nudged ahead. We hadn't sampled the Dunlop's RT predecessor much, but the newcomer is up there with the best.

The two tyres arrived at their finishing positions in very different ways. As Dunlop is a competition-focused brand, the RT2 had the edge in the dry. It finished second in braking, and even though that was a fair way behind the pace-setting Michelin, it was still at the head of a very congested pack.

It was a touch ahead of the Asymmetric 3 around the handling track, but it had the same softness and couldn't keep up with the Continental front-runner. The Goodyear had the advantage in shallow water, where the Dunlop struggled for front grip around the rollercoaster handling track. The RT2 needed a fair bit of lock and finished a second or so off the pace.

In the deeper water of the aquaplaning test, the Dunlop was the best in the business, winning our curved assessment by a clear margin. It finished third in the straight assessment, just pipping the Pirelli yet with plenty of daylight between it and the rest. At the pumps, it was competitive, but not as impressive as the Goodyear or as good as we have seen from other Dunlop designs.



RT2 came second for dry braking, but couldn't repeat that feat in the wet



TEST RESULTS

Price	£94.50	
Dry handling	98.8%	7th
Dry braking	98.4%	2nd
Wet handling	97.6%	8th
Wet braking	90.8%	7th
Wet cornering	97.9%	4th
Straight aqua	98.9%	3rd
Curved aqua	100%	1st
Rolling resistance	96.7%	5th
Cabin noise	98.0%	=8th
Overall	98.7%	4th

VERDICT New contender performs well on wet and dry roads

3 Continental ContiSportContact 5

AE YOU could call Continental our reigning champion. We haven't tested 18-inch tyres since 2010, but the German brand was the winner back then with its ContiSportContact 3, and it won last year's 17-inch test with this tyre, the 5. It was a dominant performance, too, with four category wins and three runners-up places.

Despite coming third this time around, the ContiSportContact 5 has lost none of its appeal; it's just that two new tyres have moved the game on a touch. On the handling tracks, it was the quickest and felt very lively – delivering quick direction changes with minimum steering input. It can push a little wide, but it hangs on well and you can get on the power early and still maintain the desired line. It's a real pleasure to drive and gives you confidence to go faster.

It also fared well in the other wet and dry tests, earning victories or places on the podium across all categories. Continental has made braking its focus, and this could be seen both in the wet and dry. It also fared well in the deeper water of the aquaplaning tests, where it won the straight-line assessment and took second in the curved test behind the new Dunlop. But it just loses out to two new designs here, and that's largely down to fuel economy; it proved around three per cent thirstier than the best.



Continental came out on top in our straight-line aquaplaning test



TEST RESULTS

Price	£95.09	
Dry handling	100%	1st
Dry braking	98%	3rd
Wet handling	100%	1st
Wet braking	93.5%	3rd
Wet cornering	98.9%	2nd
Straight aqua	100%	1st
Curved aqua	96.2%	2nd
Rolling resistance	85.8%	7th
Cabin noise	98.4%	=5th
Overall	98.9%	3rd

VERDICT Still a top performer, but fuel economy lets it down

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2 **Pirelli P Zero**

AE THIS is the latest version of the P Zero, not that you'd know it by the name. Unlike its rivals, it doesn't add a number to indicate a newer design. And this version has been a long time coming, as the outgoing tyre was a test winner back in 2008.

There have been revisions since, but this is the first time the Pirelli has been totally new since its test win. In fact, it's three new tyres, as there are variants targeted at different types of car and application, in line with the brand's Perfect Fit strategy. We tested the replacement tyre in this size designed for a wide range of cars. Drivers may have been waiting a while for the P Zero to arrive, but it has been worth it.

As you expect from a new tyre aimed at the mass market rather than the sporting one, fuel economy is special. It topped previous pace-setter Goodyear and it's all been achieved without compromising the wet grip – the usual trade-off for low rolling resistance. It won the cornering test and was on the podium around the handling track. Through a series of turns, it was well controlled and progressive, and although grip was gradually lost as lock increased, turn-in was sharp.

There was a similar feeling on the dry track, where it finished third. It wasn't as lively as the Continental, but worked well in the early parts of corners, with decent traction.

Low rolling resistance doesn't compromise the P Zero's wet grip



TEST RESULTS

Price	£101.56
Dry handling	99.5% =3rd
Dry braking	97.7% 4th
Wet handling	99.3% 3rd
Wet braking	92.7% =4th
Wet cornering	100% 1st
Straight aqua	98.6% 4th
Curved aqua	88.3% 7th
Rolling resistance	100% 1st
Cabin noise	100% 1st
Overall	99.1% 2nd

VERDICT A long time coming, but this tyre was well worth the wait

1 **Michelin Pilot Sport 4**

AE YOU could be forgiven for thinking that this tyre is the successor to the Pilot Sport 3, but things are never that simple in the world of Michelin. The French giant has gone to some lengths to explain that, despite the name, this is really an update for the more sports-focused Super Sport and has precious little to do with the Pilot Sport 3. Apparently a mid-life refresh for the Super Sport evolved into the Pilot Sport 4. For us, it became a winner.

The Michelin only found itself off the podium for cabin noise, and while the tyres behind it are closely matched, the Pilot Sport 4 has a clear margin at the top. It felt as good as the Continental around the handling tracks and was only a fraction slower. There's a liveliness to the steering that makes most rivals feel soft and spongy.

It maintains grip longer through corners than all but the Continental, and its sporty feel supports Michelin's claims for the tyre's heritage. It starred in the braking tests, making rivals (even braking specialist Continental) look ordinary in the wet. There was also a clear margin in the dry. It continued its podium run in the deep water of the aquaplaning tests, finishing close behind the winners. And none of this wet road prowess has come at the expense of fuel economy, for which it placed third.



Pilot Sport 4 is a great all-rounder and was excellent on our dry handling track



TEST RESULTS

Price	£102.30
Dry handling	99.7% 2nd
Dry braking	100% 1st
Wet handling	99.8% 2nd
Wet braking	100% 1st
Wet cornering	98.9% 3rd
Straight aqua	99.6% 2nd
Curved aqua	96.0% 3rd
Rolling resistance	98.0% =3rd
Cabin noise	98.0% =8th
Overall	100% 1st

VERDICT Whatever its heritage, the Michelin is a special tyre

Results by category

THINGS move fast in tyre development, and it's no surprise to see the two oldest designs at the foot of the table. Neither the Vredestein nor the Yokohama is awful, but the new designs just do things that little bit better.

Falken and Hankook would like to have finished higher up the rankings, but the performance gaps were small and they make good alternatives to premium brands and prices. It's a similar story for Goodyear with its new design, although as it couldn't quite keep up with those on the podium in our wet tests, it had to settle for fourth.

The next three tyres are extremely closely matched, so narrow are the gaps between them. The Continental is the best tyre to drive, but not the cheapest to run. That role falls to the new Pirelli, while the new Dunlop comes somewhere between the two.

It may have been close among these three, but our Michelin winner had a clear advantage. It performs well and is good to drive, too.



Proving ground staff assisted our man Adams on test

Price Dry handling Dry braking Wet handling

1	Yokohama	£85.74
2	Hankook	£86.80
3	Falken	£89.75
4	Dunlop	£94.50
5	Continental	£95.09
6	Goodyear	£95.26
7	Pirelli	£101.56
8	Michelin	£102.30
9	Vredestein	£102.50

1	Continental	100%
2	Michelin	99.7%
3	Vredestein	99.5%
3	Pirelli	99.5%
5	Yokohama	99.3%
6	Hankook	98.9%
7	Dunlop	98.8%
8	Falken	98.7%
9	Goodyear	98.6%

1	Michelin	100%
2	Dunlop	98.4%
3	Continental	98.0%
4	Pirelli	97.7%
5	Goodyear	97.6%
6	Yokohama	97.5%
7	Hankook	97.1%
8	Vredestein	95.1%
9	Falken	94.9%

1	Continental	100%
2	Michelin	99.8%
3	Pirelli	99.3%
4	Goodyear	98.4%
5	Falken	98.0%
5	Vredestein	98.0%
5	Yokohama	98.0%
8	Dunlop	97.6%
9	Hankook	97.3%

Wet braking Wet cornering Straight aqua Curved aqua

1	Michelin	100%
2	Falken	95.8%
3	Continental	93.5%
4	Goodyear	92.7%
4	Pirelli	92.7%
6	Hankook	91.4%
7	Dunlop	90.8%
8	Yokohama	90.5%
9	Vredestein	89.1%

1	Pirelli	100%
2	Continental	99.6%
3	Michelin	98.9%
4	Dunlop	97.9%
5	Goodyear	97.6%
5	Yokohama	97.6%
7	Falken	97.5%
8	Vredestein	97.1%
9	Hankook	95.8%

1	Continental	100%
2	Michelin	99.6%
3	Dunlop	98.9%
4	Pirelli	98.6%
5	Hankook	97.8%
6	Goodyear	97.6%
7	Falken	97.5%
8	Yokohama	97.0%
9	Vredestein	96.4%

1	Dunlop	100%
2	Continental	96.2%
3	Michelin	96.0%
4	Hankook	94.7%
5	Goodyear	93.2%
6	Yokohama	92.6%
7	Pirelli	88.3%
8	Falken	85.2%
9	Vredestein	79.3%

Rolling resistance Cabin noise Overall

1	Pirelli	100%
2	Goodyear	99.2%
3	Hankook	98.0%
3	Michelin	98.0%
5	Dunlop	96.7%
6	Falken	93.7%
7	Continental	85.8%
8	Vredestein	85.3%
9	Yokohama	81.1%

1	Pirelli	100%
2	Yokohama	99.0%
3	Falken	98.8%
4	Hankook	98.6%
5	Continental	98.4%
5	Vredestein	98.4%
7	Goodyear	98.2%
8	Dunlop	98.0%
8	Michelin	98.0%

1	Michelin	100%
2	Pirelli	99.1%
3	Continental	98.9%
4	Dunlop	98.7%
5	Goodyear	98.4%
6	Hankook	98.1%
7	Falken	97.7%
8	Yokohama	97.4%
9	Vredestein	96.2%

Winner

Michelin Pilot Sport 4

OUR Michelin test champion performs well in wet and dry, and although it's the second most expensive tyre here, you get what you pay for

