

evo

THE THRILL OF DRIVING



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Often neglected but critically important, tyres have the ability to make or break the excitement factor of your car. We test the pick of this year's crop to find the best rubber on the market



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TYRES GET A BAD RAP IN MY OPINION.

They're not sexy and generally only get talked about when they've let you down, if you'll pardon the pun. You'll hear people say that their tyres overheated, de-laminated, punctured, went off, struggled for turn-in, aquaplaned horribly and so on. Yet when a car is really working well, gives you confidence and talks to you, it's very rare that the tyres get commensurate praise for the huge part they play in those wonderful sensations. They can literally transform a car.

To explain just how very different tyres can feel, imagine a polished wooden floor down a twisting corridor. You have to run to one end and back as fast as you can again and again – what do you wear on your feet? You want the feel you get from bare skin. You want the fun and progression of some silk socks. You want the grip of a pair of trainers. You want the durability of some clogs. I don't think a shoe exists that combines all those things adequately, yet that's what tyre manufacturers are aiming for, and when they get it right, it's something that deserves huge praise and respect.

So, without further ado, welcome to the 2014 **evo** Tyre Test, where we've put ten sets of 225-width, 45-profile, radial, 17-inch diameter (225/45 R17) tyres through their paces. Objective tests make up 60 per cent of the final result and subjective scores for each tyre make up the other 40 per cent, with a weighting system making some tests more valuable than others. In each test the best tyre is awarded 100 per cent, and the rest a percentage of this.

TYRES

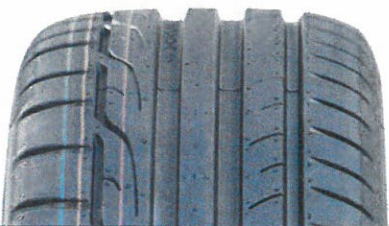
Tyres all 225/45 R17 and all bought independently. Prices are average of those available from six major stockists, and are per tyre. * Yokohama and Vredestein were only available from one stockist, so their prices were adjusted according to how that outlet's prices for all the other tested tyres compared to those of the other outlets. **Tyre information (example):** 94Y (load and speed rating), E (EU fuel economy rating), A (EU wet weather grip rating), 72dB (EU noise level)



**Bridgestone
Potenza S001**
94Y XL E A 72dB – £103.07



**Continental
ContiSportContact 5**
94Y XL E A 72dB – £109.85



**Dunlop
Sport Maxx RT**
91Y C A 67dB – £95.79



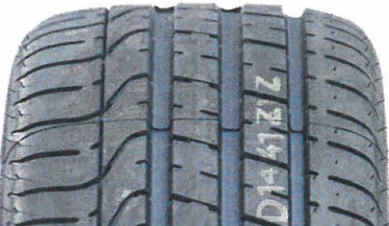
**Goodyear
Eagle F1 Asymmetric 2**
91Y C A 69dB – £96.00



**Hankook
Ventus S1 evo2**
94 Y XL E A 71dB – £101.60



**Michelin
Pilot Sport 3**
94W XL E A 71dB – £115.68



**Pirelli
P Zero**
94Y XL F A 73dB – £110.57



**Toyo
Proxes TI Sport**
94Y XL E B 71dB – £97.85



**Vredestein
Ultrac Vorti**
94Y XL F B 70dB – £103.86 *



**Yokohama
Advan Neova AD08**
91W F B 75dB – £134.79 *

PRICE

Tyre	Percentage
1 Dunlop	100
2 Goodyear	99.8
3 Toyo	97.9
4 Hankook	94.3
5 Bridgestone	92.9
6 Vredestein	92.2
7 Continental	87.2
8 Pirelli	86.6
9 Michelin	82.8
10 Yokohama	71.1

Above: cheapest tyre given a 100 per cent rating; for the other tyres, the price of cheapest tyre is divided by the price of tyre in question to give percentage rating. **Below:** Mk7 Volkswagen Golf GTI was used for most of the tests



THE CAR

You couldn't ask for a much better test car than a mk7 Golf GTI. From a purely selfish perspective it's an extremely convivial place to spend three days, but from a testing point of view its largely neutral handling balance is also reassuringly easy to click with. This is crucial when you only have a short time with each tyre to push it to its limits. The steering has good feel and the 2-litre turbocharged engine has enough power (217bhp) and torque (258lb ft) to put the tyres under pressure but not so much as to constantly overwhelm (and overheat) them. We also used a more prosaic mk7 Golf (the grey car) for the braking and aquaplaning tests, which were carried out by Kim Adams. And just in case the eagle-eyed amongst you are wondering, I did my familiarisation laps using the 18in rims supplied with the GTI, but swapped to 17s for the actual testing.

THE LOCATION

We used Bridgestone's European test facility, which is based near Aprilia, south of Rome. Opened in 2004 at a cost of €40million (£32million), the proving ground covers a healthy 356 acres. As well as the facilities that we used, it also has a 4km (2.5-mile) high-speed bowl, which runs around the outside, and a black lake, which sounds very mysterious but is just a huge empty area of empty tarmac. Being based in Italy, it also has the most generous and delicious lunch canteen imaginable.



WET HANDLING

THE 1.8KM WET HANDLING track really is very soggy. We're not just talking about a damp bit of tarmac that's distinguishable by being a darker colour to the dry bits. As you wait for the barrier to go up and you look out at the undisturbed surface, its mirror finish looks more like a very shallow river twisting through the parched brown grass.

Run in an anti-clockwise direction, the corners are varied as you would expect, with everything from a very long constant-radius bend through medium-speed esses up to a hairpin and then back through a quick left-right. I ran the GTI in its loosest ESP Sport setting (it won't turn off completely), the air conditioning was constant at all times and usefully the whole circuit could be tackled in third gear, which lessened the likelihood of human error on my part. The entire test was run over one fairly hectic morning and as well as the ten sets of tyres I also ran a separate control tyre at the beginning, in the middle and at the end of the test. This allowed the technician at Bridgestone to work out the progression of the

track through the morning as the sun warmed things up and adjust any times accordingly.

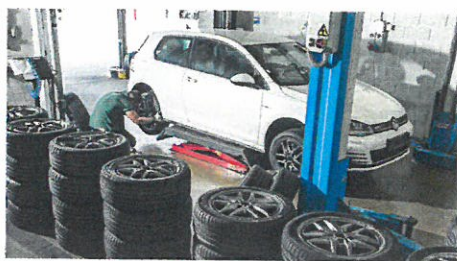
There is very little margin for error round the circuit and it's really quite intimidating until you get acclimatised, but the difference a good tyre makes is huge, not only in terms of speed but also in the reassurance and feel that it can give. That's why as well as ranking the tyres in order of lap time, I also judged and marked each tyre subjectively in seven key areas such as traction, steering feel, braking and confidence.

It's perhaps unsurprising that the ranking for the lap times and the ranking for the subjective assessment broadly match one another. Atop both tables was the Continental, which excelled in every area, giving huge confidence. There was a tightish left that seemed to have every tyre breaking free at the front and washing wide – except the Conti, which remained unfazed. To give you some idea of the difference in lap times, the control tyre (which felt terrible) was over four seconds a lap slower than the Bridgestone (which finished seventh on the leaderboard), which in turn was two and a half seconds slower than the Continental. These

'THE WHOLE CIRCUIT COULD BE TACKLED IN THIRD GEAR, WHICH LESSENED THE LIKELIHOOD OF HUMAN ERROR'

Above: good weather at Aprilia was no barrier to testing tyres in wet conditions. **Below:** Golf created a miniature bow wave





were the first three tyres that I tested (in that order) and the progression subjectively was just as stark as the lap times.

The Pirelli was very close to the Continental, also giving a great performance and inspiring confidence. The Michelin felt like it was putting in an even better lap time than it did, but was let down slightly by its traction out of the corners. The Goodyear had good feel through the steering and was very easy to manage when it was sliding. As a result of this it felt like it probably achieved a better lap time than the outright grip deserved. The Vredestein also deserves praise for great feel, particularly over the limit of grip.

One more tyre that was out of kilter between tables (last on lap time, seventh on subjective) was the Yokohama. This is a tyre with leanings towards the trackday market and as you can see from the tread pattern there is significantly less scope for clearing water. In my notes, however, I put that: 'Turn-in was pleasingly incisive, the grip only waning as more lock went on. Although ultimate grip was pretty low, the feel was nice and the breakaway progressive so you could work really well with the tyre after it had lost grip.' Overall, though, there's no getting away from the fact that it was some four and a half seconds slower than the Continental on a lap that was taking just over a minute.

WET HANDLING - TIMES

Tyre	Percentage
1 Continental	100
2 Pirelli	99.5
3 Goodyear	99.3
4 Michelin	97.8
5 Vredestein	96.7
6 Toyo	96.6
7 Bridgestone	96.5
8 Dunlop	96.3
9 Hankook	95.6
10 Yokohama	93.5

WET HANDLING - SUBJECTIVE

Tyre	Percentage
1 Continental	100
2 Pirelli	96.3
3 Michelin	84.3
4 Goodyear	82.8
4 Vredestein	82.8
6 Toyo	80.6
7 Yokohama	73.9
8 Dunlop	73.1
9 Bridgestone	70.1
10 Hankook	67.9

BRAKING AND ROLLING RESISTANCE



THERE IS NO FINESSE in the straight-line braking tests. They are simply there to measure how the tyre performs when the child/cat/inattentive driver suddenly appears in the road in front of you and you need to perform an emergency stop.

Dry braking was tested from 100kph (62mph) to zero and the results showed a three-metre difference between the best (the Continental, at 33.75m) and the worst (the Toyo, at 36.84m). There was less than a metre's difference between the top four.

With wet braking the distance covered was recorded as the Golf decelerated from 80kph (50mph) to 20kph (12.5mph) and it was another win for the Continental, the results broadly matching the wet handling times

with only the Toyo and Hankook moving places significantly. The distances of the top three were all within a metre, but at 29.33m the last-placed Yokohama was over four metres behind the Continental (25.06m).

A brief glance at the rolling resistance results (measured in an indoor lab, and essentially giving an indication of each tyre's impact on fuel efficiency) might have you thinking that they are the inverse of the dry handling lap times (see later), as the Yokohama and Dunlop switch places at the top and bottom. However, closer inspection shows both the Continental and Goodyear kicking that theory into the long grass. It is an emphatic win for the Dunlop, though, with the Goodyear some way back in second and the others bunched more closely behind that.

DRY BRAKING

Tyre	Percentage
1 Continental	100
2 Dunlop	99.1
3 Bridgestone	97.8
4 Yokohama	97.5
5 Goodyear	96.5
6 Pirelli	95.6
7 Michelin	94.5
8 Hankook	93.6
9 Vredestein	93.2
10 Toyo	91.7

WET BRAKING

Tyre	Percentage
1 Continental	100
2 Goodyear	98.8
3 Pirelli	96.8
4 Michelin	95.0
5 Hankook	91.9
6 Vredestein	90.9
7 Dunlop	89.2
8 Bridgestone	87.4
9 Toyo	86.9
10 Yokohama	85.5



'IN DRY BRAKING THERE WAS LESS THAN A METRE'S DIFFERENCE BETWEEN THE TOP FOUR TYRES'

ROLLING RESISTANCE

Tyre	Percentage
1 Dunlop	100
2 Goodyear	90.8
3 Continental	80.8
4 Hankook	79.7
5 Michelin	76.1
6 Pirelli	76.0
7 Bridgestone	75.1
8 Toyo	71.5
9 Vredestein	69.5
10 Yokohama	67.4

AQUAPLANING

AQUAPLANING, OR hydroplaning (depending on whether you studied Latin or Greek at school), is simply when the tyres rise to the surface of some standing water rather than cut through it. The net result as a driver is that you're left with the horrible sensation of light steering and you have very little directional control over the car. The speed at which the planing effect occurs is determined by the efficiency of a tyre's tread pattern to shed water. We tested this in a straight line and on a corner with a consistent water depth of 7mm.

One tyre performed markedly better than the others in both tests: the Michelin. In the straight-line test it was a healthy 4kph (2.5mph) ahead of the Hankook, which itself was a clear second. The rest of the field was loitering around the 70kph (43.5mph) mark. As you can see from the results tables, most tyres performed equally well or poorly in the curved as the straight. The one exception was the Toyo, which jumped from ninth in the straight test to third in the curved. The Yokohama was last in both: although it wasn't too bad in a straight line, its more minimal tread pattern did struggle in the bend.

Right and below: conducting the aquaplaning tests. **Below left:** Catchpole crunches the numbers



STRAIGHT AQUAPLANING

Tyre	Percentage
1 Michelin	100
2 Hankook	94.5
3 Continental	93.1
4 Vredestein	92.9
5 Bridgestone	92.5
6 Dunlop	92.1
7 Pirelli	91.6
8 Goodyear	91.4
9 Toyo	90.4
10 Yokohama	88.8

CURVED AQUAPLANING

Tyre	Percentage
1 Michelin	100
2 Hankook	90.2
3 Toyo	88.6
4 Bridgestone	85.5
5 Continental	83.8
6 Dunlop	81.0
7 Vredestein	79.6
8 Goodyear	79.1
9 Pirelli	68.8
10 Yokohama	62.6

DRY HANDLING

STOP IS FORBIDDEN

OVERTAKING IS FORBIDDEN

KEEP SAFETY DISTANCE AT LEAST 400 M

WEAR RACING HELMET WHEN DRIVING UHP, ROLL BAR
EQUIPPED & PROTO VEHICLE

BRIDGESTONE



DRY HANDLING



ONE IMAGINES THAT TEST circuits aren't designed to be fun, but the track at Bridgestone's facility is a hoot. Which is nice. It's

a very picturesque circuit too, because while the shorter grass sits gently browning under the grill-like sun, there are also trees and flower meadows covering much of the infield.

The lap starts with a downhill run into an uphill right-hander. That crests into a blind left before you run downhill into a fast right where you run all the way out to some red and white kerbing. Next you brake hard and late for a right turn into a snaking complex that really tests a tyre's ability to transition between directions. Then it's hard on the brakes for a third-gear left-hand hairpin, before a short straight leads you to a tighter second-gear right-hand hairpin, both of which really test tractive grip. I did just two flying laps on each tyre because after that their performance had generally dropped off too much in the heat (track temperature was reaching 40deg C by the end). Again a control

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was run to measure the progression of the track through the session.

As you would expect, the times were all much more closely bunched than on the wet handling circuit, and there were no absolute shockers. Nevertheless, there was one outstanding performance. To look at the Yokohama you would hope its lap time would shine here in the same way that it didn't in the wet. Luckily for the Japanese brand, it did. The Neova stormed round the circuit, carrying tangibly more speed through the corners and monsterring the complex. It felt brilliant and the result was a lap time that was over a second quicker than its closest rival, the Pirelli, and two seconds faster

than the Dunlop that brought up the rear.

What of the rest of the tyres? Well, the Continental and Goodyear both joined the Pirelli near the top of both leaderboards, just as they did in the wet. All inspired confidence but it was the Conti and Pirelli that I noted were the most impressive though the tricky transitions of the complex. The Hankook had a good round as well. It felt very secure through the fast corners, was confidence-inspiring and easy to lean on. Conversely the Michelin had a relatively bad round because although it had a nice weighty feel through the steering, it lacked mid-corner grip and struggled for traction. Whereas the Hankook (like the Pirelli and Conti) didn't seem to fade too drastically during its laps, the Michelin went off quite quickly.

Elsewhere, the Toyo felt progressive, the Dunlop howled, the Bridgestone broke away quite quickly under duress out of the hairpins and the Vredestein was only middling. At the end of the day, however, it was the Yokohama that owned the dry handling.



DRY HANDLING - TIMES

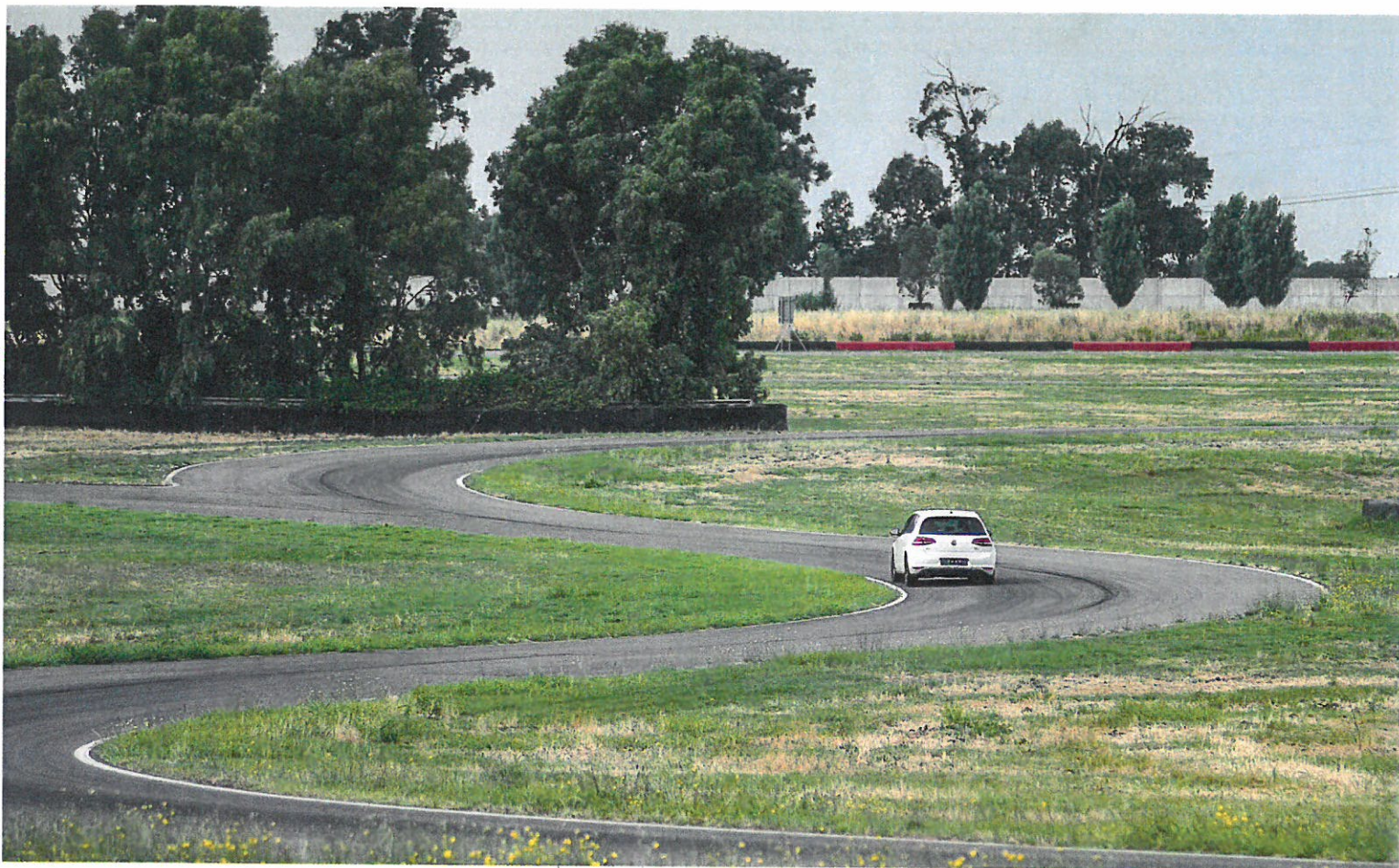
Tyre	Percentage
Yokohama	100
Pirelli	98.4
Continental	98.3
Goodyear	98.1
Hankook	97.9
Vredestein	97.6
Michelin	97.4
Bridgestone	97.3
Toyo	97.1
Dunlop	96.7

DRY HANDLING - SUBJECTIVE

Tyre	Percentage
Yokohama	100
Continental	89.4
Pirelli	89.4
Hankook	85.0
Goodyear	84.1
Toyo	79.6
Vredestein	74.3
Michelin	68.1
Bridgestone	57.5
Dunlop	56.6

Top left: dry handling course was twisty and undulating. **Above:** Catchpole sees how each tyre copes with 217bhp of front-drive power around a circuit





ROAD ROUTE

FOR THE 'ROAD' TEST we never left the confines of the proving ground because there is a whole network of connecting roads between the various facilities. It's not all pristine tarmac, either – there are patched sections (both raised and sunken), manhole covers and speed humps, plus a raft of surfaces ranging from sublime to atrocious available on the NVH section of the test facility. We varied speeds, too, and found a set of decent corners to push the tyres' limits. I also had Kim Adams in the passenger seat lending his keen ears and delicate derriere to the process. We assessed in three areas – noise, comfort and steering feel.

It was a close round, with none of the tyres performing badly but none leaping ahead of the pack either. The Michelin took the win, with joint victories in both steering feel (with the Continental) and comfort (with the Dunlop). In my notes I wrote that: 'It soaked everything up while still giving just enough feedback to be engaging.' The noise was less impressive, though, with quite a bit of roar on the more UK-esque tarmac of the NVH facility.

Perhaps surprisingly, the Yokohama was

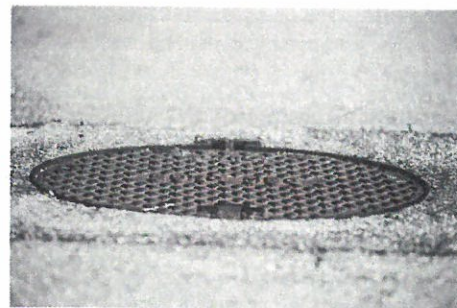
next, with one of the best combinations of comfort and noise suppression. The initial turn-in didn't have quite the feel I expected but mid-corner feel was good (although one has to bear in mind that the route was entirely dry). The Continental achieved another high placing, but picked up smaller bumps more than some of the others – something that helped with the steering feel but not with comfort.

The Vredestein was equal third, riding the bumps very well without that final ounce of plushness of the best. Steering also had a nice feel mid-corner but lacked a bit of the weight of the Conti and Michelin. Just below were the Dunlop and Bridgestone; the latter was the joint leader in the noise category, while the Dunlop had a lovely compliant feeling over the sleeping policeman and smoothed the broken tarmac.

At the bottom of the table were the Toyo and the Hankook, both deemed the least comfortable. Strangely the Hankook was quiet and had a very nice feel on the smooth pieces of tarmac but fell apart as soon as you hit so much as a catseye. I summed it up in my notes thus: 'If you drive a lot on smooth motorways then great. If you live in the Cotswolds, forget it.'

ROAD ROUTE

Tyre	Percentage
1 Michelin	100
2 Yokohama	97.7
3= Continental	95.3
3= Vredestein	95.3
5= Bridgestone	93.0
5= Dunlop	93.0
7 Pirelli	90.7
8 Goodyear	86.0
9 Toyo	83.7
10 Hankook	81.4



Top: link routes around test facility provided varied and challenging road section. **Above:** manhole covers were just one of the multitude of hazards on the route

RESULTS

10th Bridgestone
Kindly proving that home advantage doesn't always result in a home win (as some have previously suspected with these tests), it's the Bridgestone in last place. It should be pointed out, however, that there were no Linglongs in the test this year so the overall standard was much higher and last place doesn't come with the warning it usually would.

9th Dunlop
With wins in the rolling resistance test and the price category, it wasn't all bad news for the Dunlop. It also had good feel with a limit that was easy to judge. It was just a shame that the limit wasn't a bit higher.

8th Hankook
It was a bit of a curate's egg performance from the Hankook. There were some good results in the aquaplaning and a middling showing on the dry handling, but ultimately it was let down by its last place in the wet handling times and the road route section.

7th Toyo
This seems like a fair result for the Toyo, which didn't really excel anywhere. It scored slightly better in the wet timed test than in the dry timed, but curiously it was more feelsome when there wasn't any water around. It's also reasonably priced.

6th Vredestein
A similar performance to the Toyo, in that it was mostly middle of the table throughout. It did well in the wet handling, where it inspired confidence, and it notched up a solid third in the road route thanks to being comfortable and quiet.

5th Michelin
Wins in both aquaplaning tests along with a victory on the road route show that there is much to like about the expensive French tyre. Some will particularly like the distinctively weighty sensation you get through the steering, which gives a lot of confidence and security.

4th Yokohama
It was brave of Yokohama to put this forward for the test and the gamble paid off. We knew it wouldn't perform brilliantly in the wet, but in the dry the Yokohama was sensational round the track and it performed well on the road too. As a trackday tyre that you could drive every day, it was impressive.

3rd Goodyear
And so to the podium places. The Goodyear was on the top step last year in our 225/40 R18 tyre test and it put in a similar set of results this year in that it didn't win any categories, but placed consistently

well. The best characteristic of the Goodyear is that it's easy to judge the levels of grip and then work with them on or over the limit.

2nd Pirelli
The P Zero is a relatively old tyre now, but it put in very strong performances in the key areas of wet and dry handling. Often it was the only tyre that really felt close to our winner in terms of outright grip, so it is well deserving of its second place.

1st Continental
There can be absolutely no doubt about our victor this year. With four wins and only twice dropping out of the top three it was a simply brilliant performance across the board (or proving ground). Whenever I got in the car with the Contis on, it proved a joy to drive, combining feedback with fantastic grip to give supreme confidence. It's a worthy winner. x



FINAL RESULTS

Tyre	Percentage
Continental	95.8
Pirelli	93.6
Goodyear	92.1
Yokohama	90.5
Michelin	89.8
Vredestein	89.2
Toyo	88.2
Hankook	87.8
Dunlop	87.2
Bridgestone	85.2

'WHENEVER I GOT IN THE CAR WITH THE CONTIS ON, IT PROVED A JOY TO DRIVE'

