Battery performance test 20 kWh

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? EV charging claims and battery performance tested? Mercedes EQS and Kia EV6 exceed spec? Porsche Taycan continues to polish its 800V halo

Range might be one of the biggest considerations when it comes to picking an electric vehicle, but it"s not everything. Charging time is also an important number to consider when buying an electric car, because it"ll reduce your time charging at home - and especially in service stations and other charging points.

With that in mind, our colleagues at Autozeitung have put a selection of electric vehicles (EVs) through their paces in a bid to understand how accurate charging times and claimed charging rates really are. And the results may be different to what you expected.

This isn"t a test of road performance or range, as it pitches smaller city cars against supersized electric SUVs. Instead, it"s primarily about what happens at the charge point, through the cables and in the battery.

The main takeaway is that the test vehicles charge from a 10-80% state of charge (SoC) just as the manufacturer claims. There"s also a comprehensive table, which keener dataheads can pour over here, For everyone else, we"ve broken the findings down and attributed them to the cars tested, so you can get an overall picture of the model you"re most interested in.

To make the tests fair and the results as comparative as possible, the tests were carried out using CCS rapid connectors, in order to ensure consistency across all vehicles. That said, not all vehicles can receive the maximum power delivery - but more on that in a bit.

Since temperature also affects battery performance, the less-than-ideal test conditions were also noted; four to eight degrees Celsius from cold. With that in mind, eco mode was engaged, climate control was turned on, an a route including urban, country roads and motorway was used. Because the test took place in Germany, the EVs were also taken up to a top speed of 124mph. This meant battery capacity was down to just under 10% in all cars, and also meant the batteries were at a more optimal temperature for charging (between 20-40?C).

The test used a singlem-motored front-wheeled effort of Polestar 2. Significantly, Polestar has integrated the navigation with a battery pre-conditioning system: if you set the guidance to a selected charging point, the batteries will preheat the batteries to the optimum temperature for charging.

This means the Polestar 2 Long Range Single Motor can take 144kW charging after just two minutes, which increases to the claimed 150kW after four minutes. The Polestar also impressively shows what applies to almost every electric car: You should disconnect the CCS connector at the latest when the SoC is 80 %. Why? Because while the 75 kWh battery only needs 36 minutes to charge from 10 to 80%, it takes another 87

minutes to reach 100%.

The Mercedes EQS 580 4Matic is pitching to take these guys on if it gets the chance. Unladen, the EQS is 2585kg (comparatively, the Renault Zoe is about 1000kg lighter). Yet, the EQS" 107.8kWh battery delivers a breathtaking 631lb ft of torque, pushing 517bhp in old money--now referred to as engine output of 385kW.

While its heft doesn"t do the EQS any favours, this test is not about straightline speed. It"s the speed of the ions that really matter and here, the Mercedes EQS surprised by charging faster than the manufacturer specified. Only by one minute, granted. Like the Polestar 2, the battery preconditioning is hooked up to the navigation too.

We were impressed with the performance and style of the Kia EV6 when we pitched it against the Hyundai Ioniq 5 - and the stats from this test were equally good. One of only two models on the market to feature the 800V inverter technology, it meant the EV6 can accept the same power with a lower current and therefore a lighter cable.

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