

# 580 kWh battery component

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Mercedes G 580 EQ Battery is as expected rather large at 122kWh total and 116kWh usable.

The battery is integrated into the ladder frame made from steel up to four millimetres thick. This ensures a low centre of gravity and makes the entire vehicle significantly more rigid. To protect it from water and dirt intrusion, the battery is housed in a torsion-resistant casing.

The underbody protection on the all-new electric G-Class is made from an intelligent material mix that includes carbon. It increases rigidity compared to alternatives made from steel or aluminium. It also ensures long-lasting corrosion protection and saves weight. The underbody panel is 26 millimetres thick, weighs 57.6 kilograms and is attached to the ladder frame with more than 50 steel screws. A comparable steel component is around three times heavier. A one-millimetre layer of stone-chip protection is applied to the underside.

Mercedes-Benz has developed a multi-stage high-voltage protection concept for its electric vehicles to prevent electric shocks and high-energy short circuits. It comprises eight essential elements for the safety of the battery and all components with a voltage level of more than 60 volts. This includes, for example, a selfmonitoring high-voltage system that switches off automatically in the event of a serious collision.

Once we find the CATL specification sheet for this cell and images of the battery pack assembly we will enhance this post. Thanks to all for watching and supporting.

Modular, efficient and innovative: The lithium-ion battery system of the EQS can be flexibly equipped with pouch or hardcase cells. This scalability enables the realization of different range and performance variants. The innovative battery management software, developed in-house, allows updates over the air (OTA). The energy management of the EQS is therefore kept up to date throughout the life cycle.

Battery development is a decisive factor in Mercedes-Benz's electrification strategy. After all, the battery is the heart of an electric car and makes a decisive contribution to, among other things, the range and thus the driving characteristics of the electric vehicle.

The EQS marks the launch of a new generation of batteries with significantly higher energy density. The battery has a usable energy content of 107.8 kWh (according to WLTP). The new batteries set standards in terms of performance, efficiency and charging capacity.

They also meet the high Mercedes requirements in terms of safety, durability and sustainability. Mercedes-Benz issues a battery certificate for its high-voltage batteries and thus a performance promise to customers: A term of 8 years or 160,000 kilometres with a remaining capacity of 70 percent.

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**Comprehensive battery expertise** For the 12 module battery, a major step has been achieved in terms of the sustainability of the cell chemistry: The optimized active material consists of nickel, cobalt and manganese in a ratio of 8:1:1. This reduces the cobalt content to less than ten percent. The continuous optimization of the recyclability is part of Mercedes-Benz's holistic battery strategy. The aim is to be able to dispense entirely with materials such as cobalt through the use of innovative post-lithium-ion technologies.

**Intelligent operating strategy for maximum range** The battery is integrated into the intelligent thermal management of the EQS. If the intelligent navigation with Electric Intelligence is activated, the battery is preheated or cooled as needed while driving to reach the optimal temperature for efficient charging at the charging point. The desired temperature range of the battery is achieved with the aid of the cooling circuit and a PTC (Positive Temperature Coefficient) booster heater integrated into it.

**Production: Battery systems from Hedelfingen** The batteries for the Mercedes-EQ electric vehicles are supplied by the global battery production network with factories on three continents. Local battery production is a key success factor for Mercedes-Benz's electric initiative.

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