



Growing traffic volume, rising prices for fuel, and stricter EU standards for the prevention of air pollution through CO² reduction represent new challenges for the automotive industry.

The Bosch solution: Innovative systems such as start / stop systems, brake energy recuperation, and required powerful batteries.

The Bosch batteries for modern demands: S5 EFB technology and S6 AGM technology

Sources of energy with high performance capability for frequent starts – in particular with start / stop systems

Connected to the energy management system that monitors the state of charge and temperature of the battery and decides whether a reliable repeat start is possible.

S3, S4 and S5

with Stamped Grid technology



Conventional vehicle drive unit: Start up and it runs

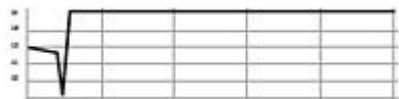
In conventional vehicles, the battery requirements from charge / discharge cycles are in the "normal" range.

Technology Stamped Grid technology

- Start / stop systems
- Brake energy recuperation
- High number of consumer units
- Frequent short distances

- ✓
- ✓

Load diagram - battery in conventional vehicle



S5

EFB technology



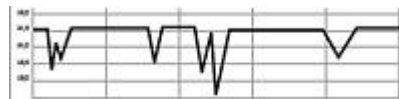
Engine with start / stop system:

A lot of starts need more energy: The start / stop system leads to a completely new load profile for the battery.

EFB Enhanced Flooded Battery

- ✓
- ✓✓
- ✓✓

Load diagram - battery for start / stop system



S6

AGM technology



Engine with start / stop system and brake energy recuperation:

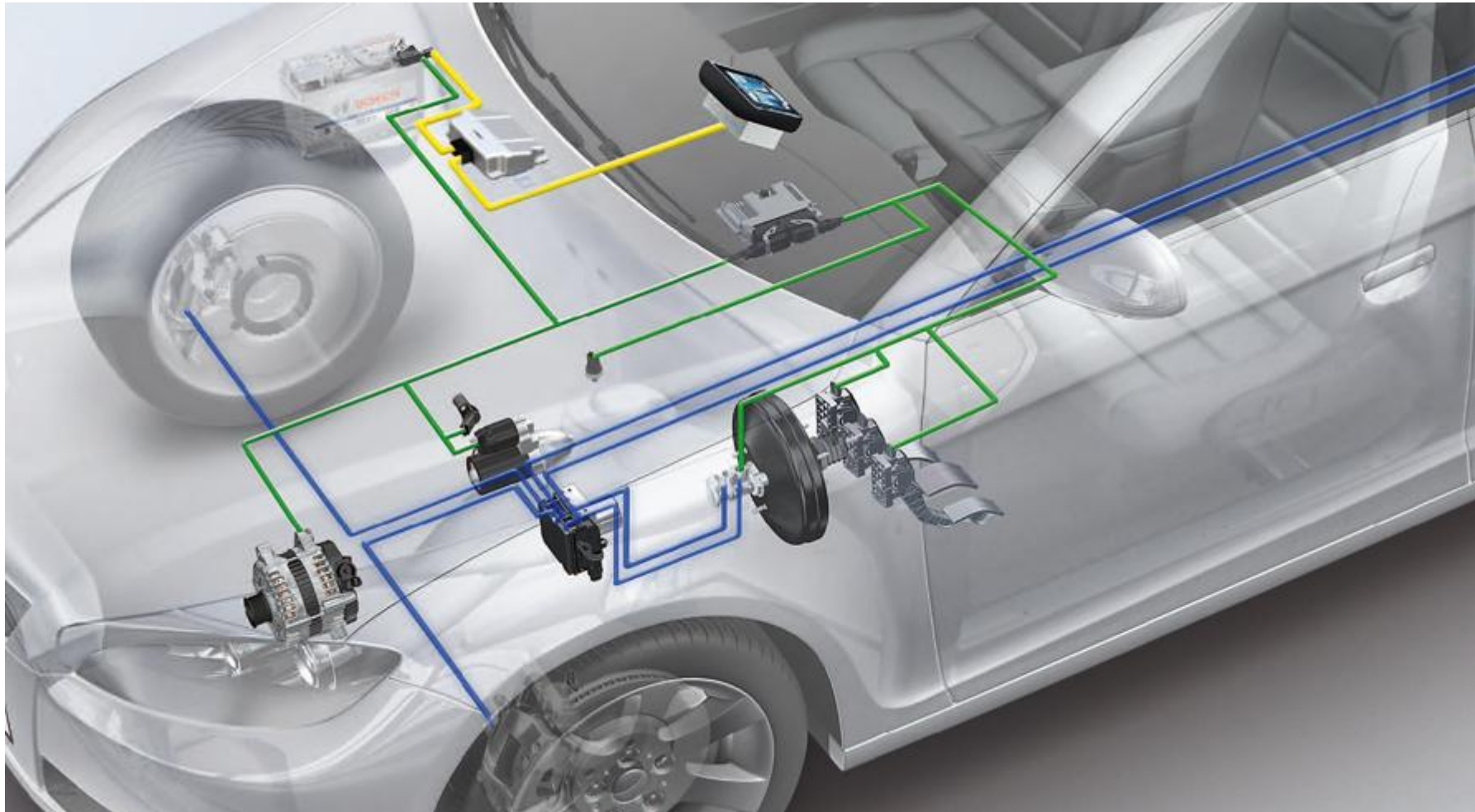
The deployment of start / stop in conjunction with brake energy recuperation requires a battery with top performance.

AGM Absorbent Glass Mat

- ✓✓
- ✓
- ✓✓✓
- ✓✓✓

Load diagram - battery for start / stop system / recuperation



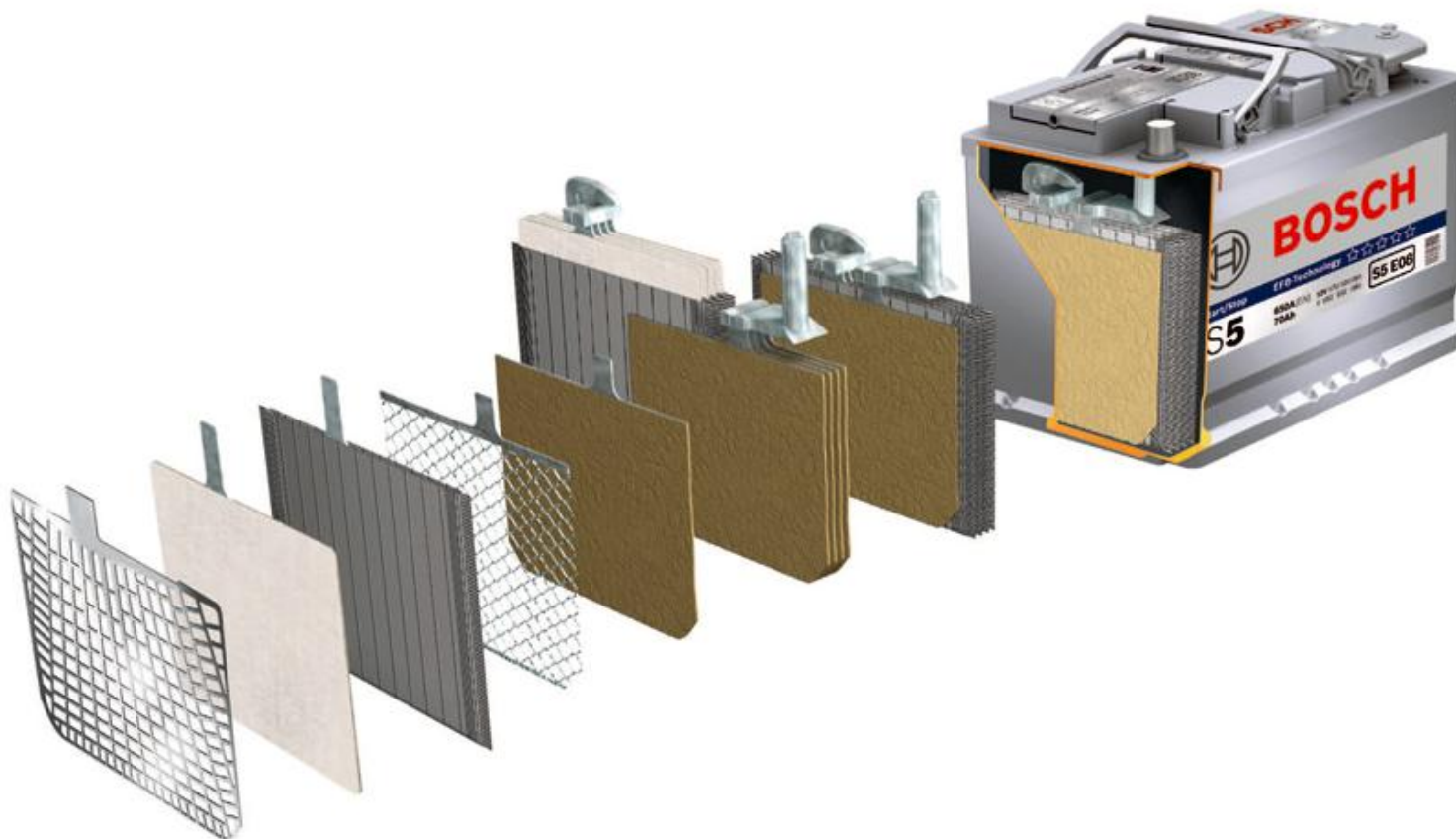


Crankshaft sensor

In the case of EFB technology, the positive plate is coated with so-called polyester scrim.

This provides additional hold for the active material.

The deep-cycle resistance is increased in comparison with traditional batteries and the battery remains ready for deployment even in the event of strong vibrations.

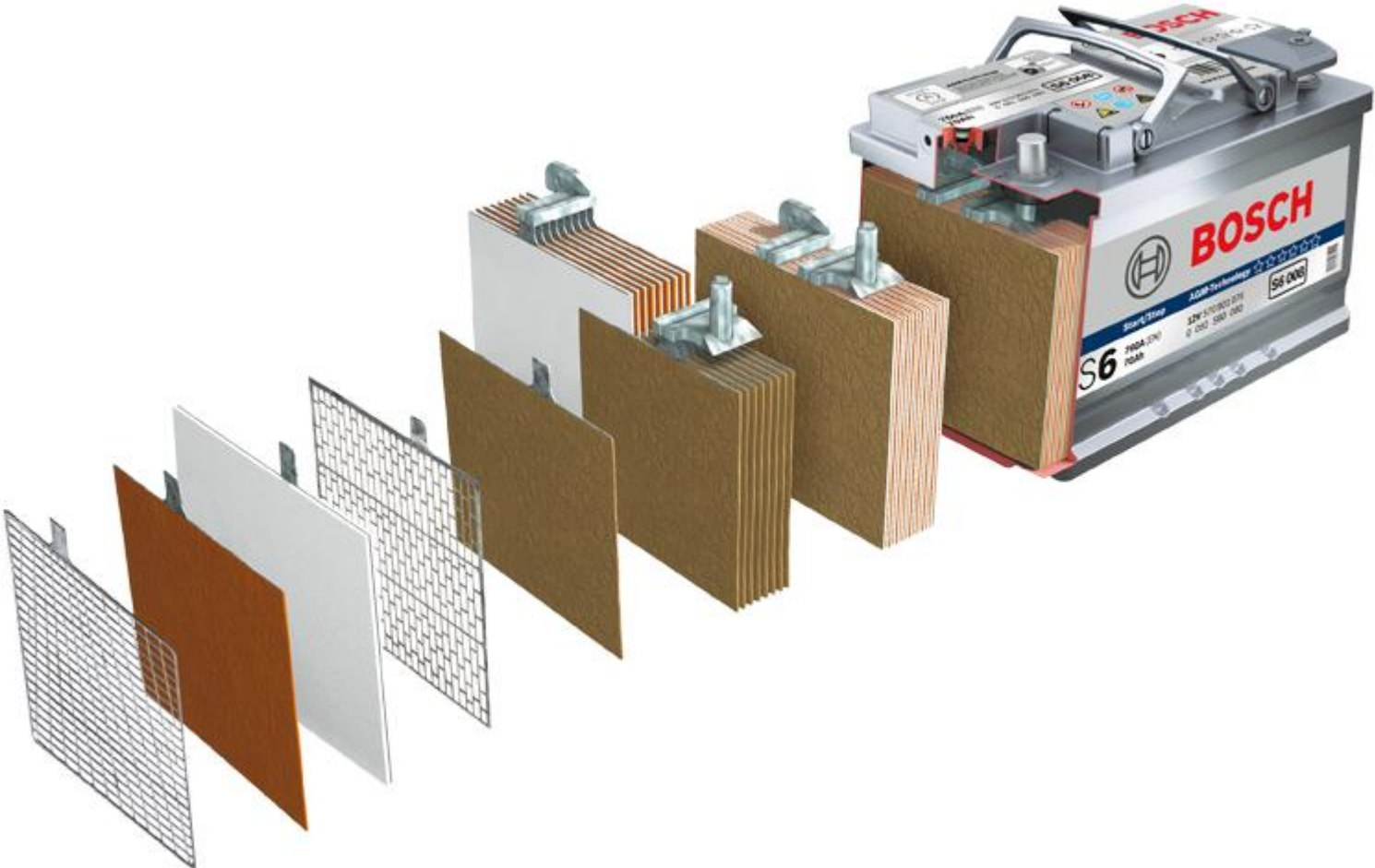


Positive plate set

Special microglass fiber mats are located tightly between the lead plates of the AGM battery and bind in all of the electrolyte.

High pressure minimizes loss of the active material with extremely low internal resistance.

The faster reaction between the acid and plate material means that higher amounts of energy can pass in demanding situations.



Positive plate set