



# TECHNICAL NEWSLETTER

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## IT'S WHAT'S INSIDE THAT MAKES THE DIFFERENCE! A FOCUS ON CARBON ADDITIVES

Any battery is only as good as its contents and every single component, beginning with lead as a raw material and ending with the casing, plays a decisive role in battery quality. Accordingly, stringent quality standards must be observed in order to guarantee long battery life and this "Newsletter" deals with the use of carbon additives in the negative, active mass.

### What is carbon?

Carbon is a chemical element that is found in nature in a pure form, or bound into a chemical compound.

Today, carbon is associated with high-tech and state-of-the-art products and in general is characterised by low weight in combination with very high levels of rigidity and mechanical strength. It is therefore in great demand in numerous areas of application.

As far as the lead-acid battery is concerned, carbon is particularly useful owing to its excellent electrical and heat conductivity.

### Technical background

In order to increase the chargeability and thus the cycle resistance of lead-acid batteries, very small amounts of a suitable carbon additive can be used. The effect is very high by low discharging rates. (one cycle is represented by discharge and subsequent recharging)

In batteries the carbon particles are bound into the negative active mass structure during the battery production process.

This raises the conductivity of the active mass and the current absorption capacity of the battery considerably. Thus resulting in a marked reduction in charging times.

However, only certain carbon additives in a suitable form can be employed without exacerbating undesirable side-effects such as water consumption and battery self-discharge.

Carbon additives have a significant effect when used in conjunction with enhanced flooded batteries (EFB) in micro hybrid applications (start / stop).

During first fitting, the utilisation of the additive in the negative, active mass is accepted as an "acid stratification reduction measure".

Detailed information regarding the acid stratification phenomenon is contained in "Technical Newsletter" No.9.

### Use by Banner

Banner currently employs carbon additives in its Running Bull EFB batteries. In this batteries the positive characteristics of carbon showing huge advantage.

In general carbon additives are showing good properties concerning charging acceptance und could be used in every lead acid battery.

If the implementation is always reasonable depends on the whole conception of a battery (water consumption and self-discharge).

Using the example of Running Bull AGM a use of the carbon additives is not necessary. These batteries are already exceed all the requirements for the first fitter due to the well-balanced design without using the additives.

### Major VW order for EFB batteries

For many years, numerous leading OEMs such as Aston Martin, Audi, BMW, Porsche, Volkswagen, etc. have opted for the quality and know-how intrinsic to Banner batteries.

The latest highlight in the successful partnership with VW is a large order for EFB batteries for first fitting within the group.

In concrete terms, 69Ah performance class batteries are to be used in "Blue Motion" start/stop vehicles at the VW plants in Wolfsburg (Germany), Pamplona (Spain) and Palmela (Portugal), as well as the Audi works in Győr (Hungary) and the Seat plant in Martorell (Spain). All these Banner EFB batteries will also contain carbon additives.

This contract serves to underline the probity of Banner's recipe for success, which consists of a combination of quality, powerful brand, technical competence and reliability.



Source: www.brandinside.de

