## **AGM batteries** Johnson Controls Presents the Vlies.Tec® Car Battery

Hoppecke developed the technology with Mercedes-Benz A New Battery Technology for the M-Class, S-Class and new E-Class Goes Into Production



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Brilon/Burscheid, Sep. 16, 2002 - The vlies.tec® car battery from Johnson Controls represents a revolution in automotive power supply. Unlike conventional batteries that use storage accumulators, the new vlies.tec battery is equipped with absorbent glass fleece that surrounds and binds the battery acid. Until recently the battery was being produced on a small scale for the automotive industry. Now, however, the vlies.tec

battery has gone into high-volume production and is also available as an aftermarket product. This technology is just one of many new developments in the battery range that Johnson Controls will be introducing at the Automechanika 2002 in Frankfurt.

## The vlies.tec® car batteries fulfill innovative performance criteria

The vlies.tec battery already achieved recognition in the Innovation Competition held at Automechanika 2000, receiving the group prize in the electric/electronics category. This 12-volt battery was developed to fulfill the steadily increasing energy requirements in today's technically complex vehicles. The battery provides a high level of safety, since the new vlies.tec technology effectively prevents acid leakage, even if the battery box is perforated. Since the battery is also lower in weight and volume than conventional batteries, it fits in areas other than the engine compartment and can even be installed in a tilted position. Other distinguishing features are a long service life, very high cold start performance and vibration resistance, easy handling and logistics, as well as complete freedom from maintenance requirements. The S-Class, M-Class and new E-Class from DaimlerChrysler, as well as the Volkswagen Phaeton and Touareg, are already outfitted with vlies.tec batteries.

## Longer service life and higher starting performance

Compared to batteries commonly available, the vlies.tec battery can easily be recharged after being completely discharged. Even frequent discharge of the battery does not affect its quality or reduce its useful life. Under normal circumstances its product life is at least 30 percent longer than that of conventional batteries. In addition, the vlies.tec battery provides cold start performance that's up to 15 percent higher.

Mercedes-Benz calls them absorbent glass matt (AGM) and valve regulated lead acid (VRLA) batteries. Optima batteries use similar technology, but are spiral wound instead of using stacked plates.

Hoppecke opened the world's first volume production line of vlies.tec® AGM batteries in August 2002 in Zwickau, Sachsen, producing 1500 batteries per day.

MBUSA issues a service bulletin P-B-54.10/53 for all MB passenger car (not light truck) models on May 15, 2001. Passenger models receive them starting Q1/2001 with the new SL, 03+ E, lateron 06+ ML, R, 07+ GL.

Testing requires the Micronics battery tester, available from MB dealers.

Mercedes battery part numbers model number 004 541 46 01 12 Volts 100 Ah AGM battery

Hoppecke AGM batteries, vlies.tec® model number 570 901 076 12 Volts 70 Ah 760 CCA model number 595 901 085 12 Volts 95 Ah 850 CCA Varta AGM batteries, the new VARTA Ultra dynamic model number 570 901 076 3332 12 Volts 70 Ah 760 CCA model number 595 901 085 3332 12 Volts 95 Ah 850 CCA

Features	Advantages
AGM technology	No loss of active material due to immobilization of the electrolyte
Extreme cycle stability	Greater energy capacity
Improved cold start power	More electrodes since no electrolyte store is required
Longer service life	Decelerated "ageing" of the battery due to AGM technology
Leak and tilt resistant	Can be installed in any position and poses no danger to the environment even in a crash
Absolutely maintenance-free	No water consumption; oxygen recombination; storage life of 15 months