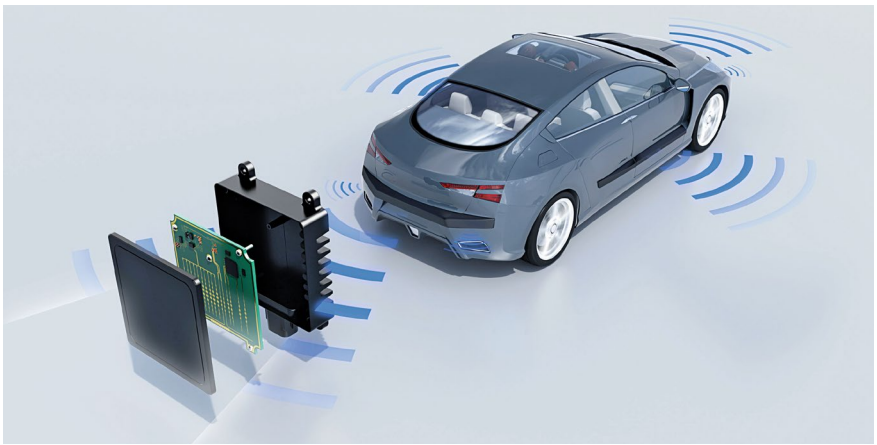
More Clarity for Radar Sensors



© BASF

With Ultradur RX, BASF has developed a modified polybutylene terephthalate (PBT) specifically for radar sensor applications in vehicles.

The development of new technologies for the automotive industry focuses on comfort and the safety of passengers. In addition to electric mobility, automated driving is a crucial building block for the mobility of tomorrow. Closely linked to this development is the increased use of sensors.
With Ultradur RX, BASF has now developed a modified polybutylene terephthalate (PBT) specifically for radar sensor applications in vehicles. Thanks to its good resistance against media such as splash water, oils, or salt, the product offers exceptional protection for sensor housings, BASF says. In addition, according to the manufacturer, the new material shields the sensitive electronics in the housings against interference from electromagnetic waves from other vehicles.

"The different grades of the new Ultradur RX series are products designed for absorption and reduction of interference radiation in the range of 76 to 81 GHz. They offer a high level of protection of the sensitive electronics," explains Dr. Erik Gubbels, an expert at the Performance Materials division at BASF.

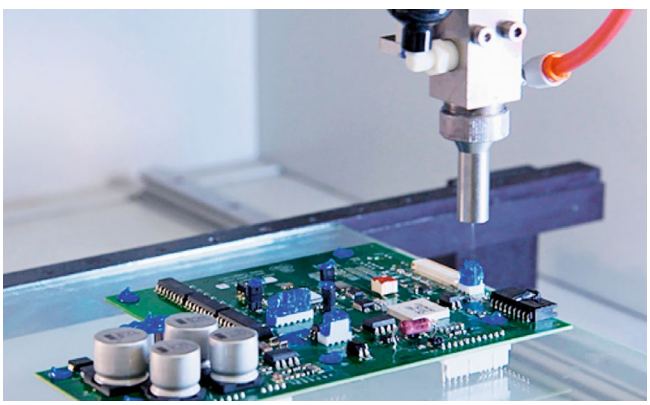
Absorption and reflection of interference radiation

With increasing electromagnetic interference issues in road traffic, it is crucial that, for optimum sensor functioning, this noise is absorbed and therefore reduced. This is where Ultradur comes into its own. By suppressing radar radiation interference, a better assignment of the received signals is possible, which at the same time means an improvement in safety. As a functionalized plastic, Ultradur RX is therefore an alternative to metal housings, thus contributing to weight savings and higher vehicle efficiency, the manufacturer says. //

Further information: www.basf.de

Conformal Coating from Dymax Certified to MIL-I-46058

The light-curable conformal coating Dymax 9483 has successfully completed rigorous qualification testing to Military Specification MIL-I-46058, according to the manufacturer. This UL94 and UL746-E recognized dual-cure coating has also been approved to the IPC-CC-830B standard and is in full compliance with RoHS2 Directives 2015/863/EU.



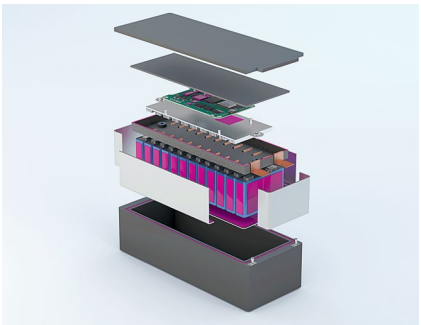
© Dymax

Conformal coating from Dymax for circuit boards has been successfully certified.

In order to meet these requirements, the coating was subjected to a number of comprehensive tests, in which it fulfilled or even exceeded the standards, for example curing rate, curing temperature, appearance, thermal cycling, and resistance to humidity. Parallel to this new certification, an independent reliability study was performed on Dymax 9483 and compared to a leading, competitive dual-cure conformal coating. As Dymax points out, the results indicate that the material outperformed the competitive product in a number of areas. These include comparable or superior performance on circuit boards through typical thermal cycling and heat/humidity reliability testing. In addition, a separate chemical resistance study against seven common fluids used in the automotive industry was also carried out on the coating. //

More information: https://go.dymax.com/dual-cure-9483

Thermally Conductive Battery Adhesive for Hybrid Vehicles



© Delo

Thermally conductive adhesive (magenta) for low-voltage battery systems

Delo has developed a structural adhesive for batteries used in hybrid vehicles. The adhesive, which is called Delo-DUOPOX TC8686, is thermally conductive and flame-retardant and is designed for high-volume series production. The product is currently being used in the production ramp-up at an automotive supplier. According to Delo, the new adhesive is particularly suitable for low-voltage batteries, such as those found in mild hybrids. For example, this allows battery cells to be bonded into the battery housing, while also efficiently dissipating the heat generated during operation, the company says. DUOPOX TC8686 combines structural bonding and connection of the thermal management system in one step instead of mechanically connecting the battery cells and then using so-called gap fillers for heat dissipation. This saves one process step and simplifies production. Delo says that the product is suitable not only for mild hybrids, but also for conventional hybrids and for other batteries in the low-voltage range, such as those used in e-bikes and e-scooters.

Properties optimized for batteries

According to the manufacturer, the structural adhesive is designed for temperatures ranging from -40 °C to +85 °C and offers good strength on battery cells and typical housing materials. For example, the tensile shear strength on aluminum is 18 N/mm². The adhesive also meets the strength requirements of the automotive industry at typical operating temperatures between 10 °C and 40 °C up to the maximum service temperature of 80 °C, a temperature at which the battery electrolyte can already be irreversibly damaged. The adhesive's properties in terms of elongation at tear also help to meet these requirements. A certain amount of flexibility compensates for the different thermal expansion behaviors of the cell and housing material during operation. The product's thermal conductivity, which is a very important factor for battery cell applications, is 1.1 W/m·K. Another major benefit is that it meets the requirements for flame retardancy according to UL 94 V-0. //

Further information: www.delo.de

Repair of Rubber Surfaces

Weicon has developed a special set, called the 'Belt Repair Kit', for the fast and reliable repair of conveyor belts and for repairing and coating rubber surfaces in general.

© Weicon

The Belt Repair Kit from Weicon is suitable for the fast repair and coating of rubber surfaces.

The product is a two-component polyurethane system for the fast repair and coating of rubber surfaces. As Weicon points out, the system has a high curing speed, high elasticity, and wear resistance. It is also impact-resistant and very abrasion-resistant, and has a particularly high tear resistance. Its high mechanical strength makes it suitable especially for repairs on rubber and metal components which are exposed to impacts, abrasion, or vibrations. //

Further information: www.weicon.de