Press release

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**Reliably measure brake disc wear protection**

**In order to comply with the new EURO 7 emissions standard for brake and tire abrasion, new brake discs are given a protective coating made of tungsten carbide or titanium carbide, for example. It is crucial that this layer is applied as evenly as possible so that the maximum braking effect is achieved later on. To measure the thickness of this layer, three different measurement methods can be used, which Micro-Epsilon supports with selected product groups.**

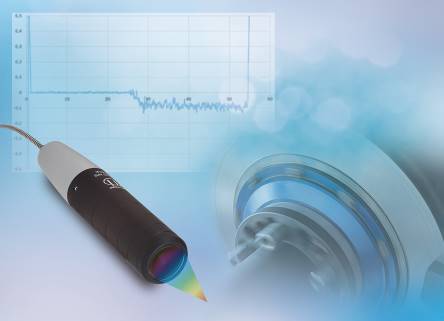
The new EURO 7 emissions standard, which includes standards for brake and tire abrasion for the first time, will apply to new vehicle registrations from the fourth quarter of 2026. In order to comply with the limit values, new brake discs are given a protective coating of tungsten or titanium carbide. Each layer applied is usually 100 to 200 µm thick. To determine the thickness of the individual layers, the distance to the surface is measured before and after each application. The distance values are then calculated either in the associated controller or in an evaluation unit provided by the customer to determine the coating thickness.

Depending on the requirements, confocal chromatic, capacitive or laser-optical sensors from Micro-Epsilon are used. Regardless of the measuring principle, each of the sensors mentioned achieves the required accuracies of less than 20 µm and offers different advantages for reliably measuring the rough surface in powder-loaded environments and at high temperatures.

Confocal chromatic sensors deliver reliable results at a comparably large distance, minimizing the thermal load on the sensor to a non-

critical value. Another product group that can be used to measure the thickness of the wear layer are the capacitive sensors from Micro-Epsilon. They provide precise results at a very small measuring distance, withstand high thermal loads and impress with their compact design. The largest measuring distance of the three product groups can be achieved with laser-optical sensors. The large distance also means that the thermal load is negligible.

approx. 2,100 characters



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