Development of future-proof tire solutions thanks to a global infrastructure of test tracks



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Continental tests commercial vehicle tires under challenging weather conditions

- Winter conditions demand above all optimum snow and ice handling

- Results contribute to the further development and optimization of tire technology

- Electromobility increases relevance of rolling resistance and noise development

Hanover, Germany, March 04, 2025. The technology company Continental tests its tires 365 days a year on internal test tracks. All tires are driven extensively there under different conditions before they are approved for external, independent tire tests. The largest European test site is the Contidrom in Jeversen near Hanover. The company also has other test tracks in the USA and Scandinavia. The test track in Arvidsjaur in Sweden focuses on winter tire tests.

Depending on the weather, we have different test conditions here every day,

explains Joachim Blass, who has been working internationally as a test engineer for Continental for twenty years. He emphasizes that during the test drives in Sweden, the snow and ice handling performance, snow traction and rut sensitivity of the tires are particularly scrutinized. The results of these tests are incorporated into the continuous further development and optimization of the tires.

Sustainable development impetus through diverse test structures

The requirements for commercial vehicle tires are becoming ever more stringent and diverse. The main reasons for this are increasing cost pressure, strict requirements for CO2 reduction and the use of alternative drive systems. Added to this are the individual tire requirements of countries around the world.

Overall, criteria such as low rolling resistance and the lowest possible noise emissions have become considerably more important in recent years," reports test engineer Joachim Blass. "This will continue in view of the growing use of electromobility." In outdoor tire tests, such as at the test site in Sweden, Continental engineers use the extreme winter conditions to investigate and further develop tire criteria. "Depending on the atmospheric and surface temperature, precipitation, wind, solar radiation and humidity, we often find very different test conditions,

Tire criteria for vehicles

Depending on the weather conditions, new products and tire optimizations are tested and compound formulations and tread designs are compared.

Together with an industry partner, we are currently investigating which changes to the tire design make sense for use on etrailers in order to optimally design the tires for the requirements of a battery-electric drive." Experience is essential for working as a test driver. A test is run, and the product developers use the results to decide on further adjustments. "We see the test tracks as a campus where we try out new things in order to understand how the tires react in combination with vehicles during driving maneuvers, even at the limits.

In the commercial vehicle sector, tire tests focus on properties such as rolling resistance, mileage, noise, traction, braking and cornering behavior. On the outdoor track in Sweden, braking behavior, traction and cornering stability in particular are tested under various winter track conditions. The subjective assessment focuses on traction and handling. In the objective tests, the braking and traction capabilities of the tires are recorded using state-of-the-art measurement technology.

In the subjective assessment, I am the sensor. I experience the reaction of the vehicle and give my assessment". At its core, it is always about safe driving behavior. "Ultimately, the driver is

the measure of all things,

emphasizes Joachim Blass. "For the interaction of tire characteristics in real driving conditions, the human being is still the best sensor.

Development of sustainable tire solutions

The requirements for commercial vehicle tires are particularly high compared to passenger car tires. They are therefore tested using additional test methods. These include the traction test, in which a vehicle must be able to start off safely on an icy or snow-covered ramp.

We try to simulate exactly the situations that are relevant for the customer in everyday life," explains Joachim Blass. We also observe how the tires react in extreme situations. This includes braking maneuvers such as when changing lane or driving behavior in black ice and suddenly reduced grip. In addition to these safety aspects, criteria such as the high load-bearing capacity of commercial vehicle tires, low rolling resistance and high mileage are of great importance. "With these tire characteristics, we support our customers in keeping their fleets on the road efficiently and sustainably.

Continental's diverse infrastructure of test tracks worldwide provides comprehensive answers to questions about the development and optimization of tires. The test methods are continuously adapted to the needs of customers and markets.

By understanding the individual tire requirements of our customers around the globe, we can develop the right tire products for them and offer future-proof tire solutions,

concludes tire tester Joachim Blass.

Spokesperson commercial vehicle tires

Public Relations, Media and Communication

Continental Reifen Deutschland GmbH

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