



thyssenkrupp Steel supplies CO₂-reduced specialty material for sustainable truck wheels for the first time

- tkSE is supplying CO₂-reduced bluemint® Steel to the wheel manufacturer Accuride for the production of truck wheels.
- bluemint® Steel and the optimized material concept offer a clear bonus in terms of sustainability.
- Presentation of the new product in September at IAA Transportation 2022.

Duisburg, 16 September 2022 Sustainable product solutions through multidisciplinary material optimization – based on this approach, thyssenkrupp Steel is supplying low-CO₂ steel to its customer Accuride for the production of truck wheels. The wheel, which can exploit the advantages of the new material concept over its entire lifecycle, will now be presented for the first time at the IAA Transportation in September.

Sustainability as the development driver of a comprehensive materials concept

To improve the carbon footprint of the wheel for the customer Accuride, several parameters in flat steel production have been optimized with regard to sustainability. bluemint® Steel is used for sustainable wheel production – compared with conventional steel, it offers emission savings of 70% up to the hot strip production stage. This climate-friendly effect is achieved by using HBI, pre-reduced iron ore in the blast furnace. This enables less coal to be used for the reduction process there. An actual reduction in emissions is thus achieved. bluemint® Steel is a flat steel product which does not have any effect on the balance of emissions at the Duisburg site – the emissions of what is referred to as the upstream chain (Scope 3) are reported. These are all emissions that occur during the production and transport of the input materials. In this way, the CO₂ intensity of each metric ton is reduced by 1.5 metric tons, to

0.6 metric tons. This calculation methodology as well as the produced quantity of bluemint® Steel has been confirmed by the international certifier DNV.

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Economical lightweight construction enables further CO₂ reductions

The material concept also pays off in terms of the product's future viability. A steel with a higher strength is used, which enables a lower sheet thickness with the same performance. This lightweight construction effect makes for a weight saving compared to conventional wheel steel, leading to lower fuel consumption in the utilization phase. This enables a double CO₂ saving: during the steel production and during the entire utilization phase of the wheel. Taken together, this amounts to more than 10% over the entire lifecycle with a mileage of 1,200,000 km. The weight-optimized bluemint® wheel can also score points in terms of sustainability compared to a much lighter forged aluminium wheel of the same size.

Transformation concept tkH2Steel in implementation

thyssenkrupp already offers its customers CO₂-reduced and certified steels on the basis of its tkH2Steel transformation concept. To this end, various opportunities for CO₂ reduction are being exploited within the existing technology framework. The decisive step towards climate-neutral steel production will be the construction of hydrogen-based direct reduction plants. The first plant is scheduled to go on stream in Duisburg in 2026. Production of five million metric tons of low-CO₂ steel is already planned for 2030.

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