

Treibacher achieves breakthrough with TiCN+Mo₂C brake disc coating

ALTHOFEN, Austria - In the continuous pursuit of innovative solutions to improve brake discs and pads, [Treibacher Industrie AG](#), the parent company of renowned metal sulfide specialist [Tribotecc GmbH](#), has achieved a significant breakthrough. By introducing a groundbreaking material innovation, Treibacher Industrie AG promises a substantial improvement in the performance and reliability of coated brake discs.

Previous challenges in developing coated brake discs involved the use of tungsten carbide, leading to issues like cracking and grooving due to its brittleness. Although alternatives like TiC FeCr and TiC agglomerates showed some improvement, they remained susceptible to brittleness, cracking, and occasional grooving. Even TiC FeCr, when sintered and crushed, faced problems like breakages and cracks.

However, a recent development at Treibacher Industrie AG has brought forth a promising solution to these issues. The introduction of TiCN Mo₂C agglomerates has successfully addressed the material problems observed in the aforementioned systems and is characterized by optimized properties. A key aspect of this innovation is the use of Mo₂C as a wetting agent within the particles. This was crucial because TiCN does not adhere well to steel. The addition of Mo₂C effectively resolved this issue.

The test results are highly promising, with favorable outcomes observed in tests with the AMS130, a standard brake disc test, showing no defects. Tougher tests conducted on the racing circuit also did not lead to major defects on the brake disc surfaces.

"We initially addressed the shortcomings associated with materials like tungsten carbide or TiC FeCr. Today, we are delighted to announce that our TiCN Mo₂C delivers convincing results in various steel matrices. No cracking, no grooving, and an efficient cost structure add value to the entire process, alongside the benefit of a European supply chain," says Fabian Sander, Head of Research and Development at Treibacher Industrie AG.

These positive results have led to the adoption of these discs within an in-house project at Tribotecc, tailoring the metal sulfide package for brake pad formulations to this new class of coated discs.

This groundbreaking development underscores how innovation and research can contribute to enhancing performance and safety in the automotive sector.

"Due to our proximity to our parent company, we can directly optimize our products for this class of coated discs. With our extensive product portfolio and years of expertise in developing metal sulfide-based additives, we are confident that we will soon offer our customers the right metal sulfide packages, significantly reducing development efforts on our customers' side," says R&D expert Lars Hensgen of Tribotecc.

Through the close collaboration between Treibacher Industrie AG and its subsidiary Tribotecc, new standards on the material front for brake discs and pad technology are poised to be established, demonstrating that through ongoing efforts and innovative approaches, mobility can be made safer and more environmentally friendly in the future.

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Treibacher Industrie AG

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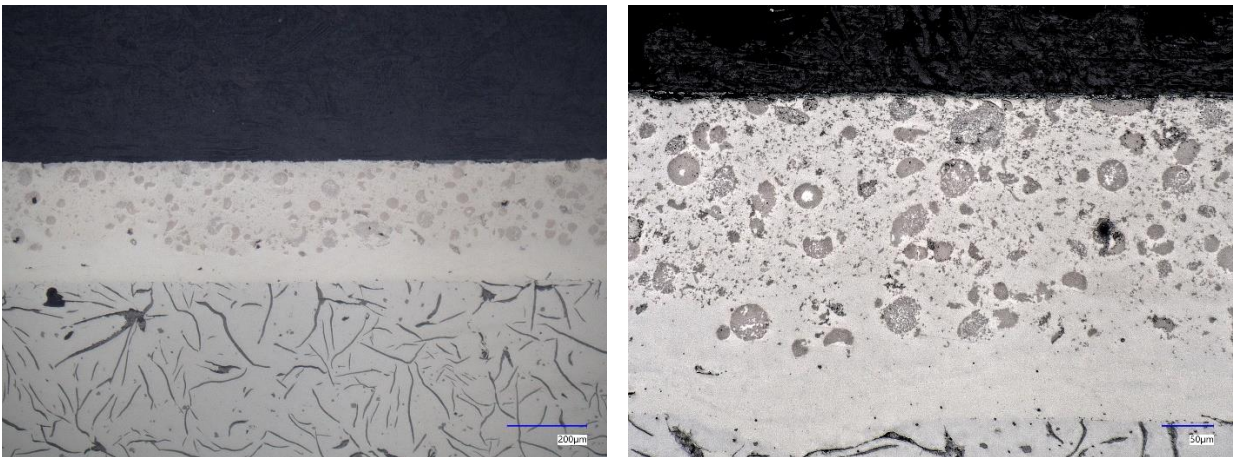
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Treibacher Industrie AG has been a leading international player in the chemical and metallurgical sectors for decades. The company was founded in 1898 by Dr. Carl Auer von Welsbach and is still headquartered in Althofen/Carinthia (AUT). Here, materials for technologically highly demanding applications are developed, produced and supplied to customers all over the world. The portfolio ranges from precursors for the pharmaceutical and biomedical industries, to coatings for the aircraft and catalyst industries, to high-quality alloy additives for the global steel industry. In addition, Treibacher Industrie AG is the market and technology leader in Europe for the recycling of spent catalysts from the petroleum industry, saving thousands of tons of primary resources such as vanadium, nickel and molybdenum every year.

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These images show coated brake discs (TiCN+Mo₂C) AFTER tests on the race track. The discs remained free of cracks and grooves. AMS 130 as well as much tougher tests were carried out.