



Your One-Stop Solution for Advanced Brake Disc Coatings – Cleaner, Greener, Better!

Brake discs, also known as brake rotors, are at the heart of every vehicle's braking system. When you press the brake pedal, friction between the brake pads and discs slows the car down—but it also releases microscopic wear particles into the air. This fine dust, made of metallic and ceramic particles, brake pad residue, and oxidized debris, not only contributes to air pollution but also dirties vehicles and diminishes their appearance.

To combat this, the industry has turned to innovative low emission braking solutions, including high-performance coatings. The first-generation coated brake discs used a multi-layer system: a durable carbide topcoat applied via High-Velocity Oxygen Fuel (HVOF) spraying and a corrosion-resistant bond coat made of galvanic nickel. These coatings deliver exceptional wear resistance, longer disc lifespan, and a cleaner driving experience. However, due to the high cost of application, most brake discs remain uncoated.

In recent years, as awareness of the environmental impact of fine dust has increased, various government authorities have begun working on regulations to limit fine dust emissions.

One example is Euro 7, which is part of the European Commission's efforts to reduce road transport emissions, improve air quality, and support the Commission's Green Deal goal of making Europe climate-neutral by 2050. Euro 7 sets a target to reduce fine dust emissions from braking to 7 mg/km for passenger cars and 11 mg/km for light commercial vehicles, starting in November 2026. This limit will primarily affect vehicles with internal combustion engines (ICEs). However, stricter limits will come into effect in January 2030, impacting all vehicle types including hybrid and electric models. Further reductions are foreseen from 2035 onward.

Now more than ever, automotive OEMs need cost-effective coating solutions to meet these increasingly stringent regulations.

As an industry leader in surface coating technology, Höganäs collaborates closely with automotive customers to develop high-performance, sustainable brake disc coatings. Our solutions range from cost-effective coatings with superior durability to premium options that deliver exceptional performance with enhanced productivity compared to competitors.

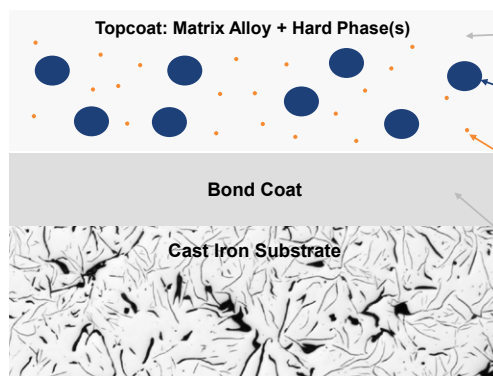
Höganäs' Cost-effective Multi-layer Solutions

Topcoat:

Carbide hard phases in
Amperbrake 371 matrix

Bond coat:

Amperbrake 371
(430L stainless-steel powder)



Amperbrake 371 matrix

Carbide hard phases added by
blending or co-injection

Precipitated carbides formed in-situ

Amperbrake 371

Both layers are applied using High-Speed Laser Cladding (HSLC). These dense, crack-free coatings provide superior corrosion and wear resistance while reducing fine dust emissions by 30–50%, ensuring compliance with Euro 7

legislation. Additionally, these solutions offer significant economic benefits due to high productivity and cost-efficient coating materials.

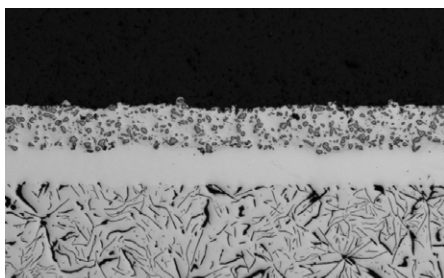
Choices of HSLC Multi-layer Solutions

Topcoat:

Amperbrake 371 +
Amperit 570 (TiC S&C*)

Bond coat:

Amperbrake 371



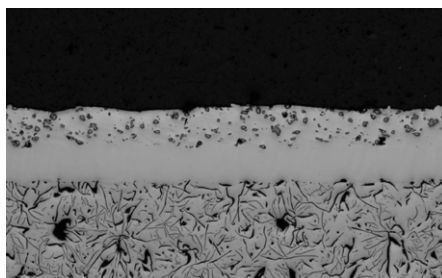
- » Topcoat – customized cladding parameters required to avoid cracks and voids
- » Bond coat – dense, crack-free with good adhesion
- » Fine dust emission reduced by approximately 30% – suitable for compact and mid-sized vehicles

Topcoat:

Amperbrake 371 + Amperit 570 +
Amperit 580 (Cr_3C_2 S&C*)

Bond coat:

Amperbrake 371



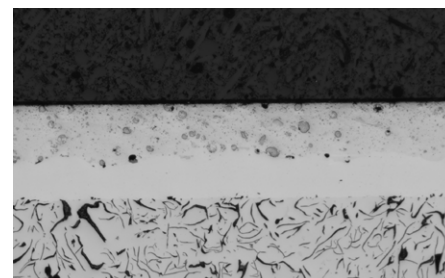
- » Topcoat – less prone to cracks and voids, more stability and flexibility in process parameters
- » Bond coat – dense, crack-free with good adhesion
- » Fine dust emission reduced by approximately 40% – suitable for compact and mid-sized vehicles

Topcoat:

Amperbrake 371 +
Amperbrake 676 (TiC-FeCr A&S**)

Bond coat:

Amperbrake 371



- » Topcoat – crack-free, excellent wear resistance, consistent coating properties
- » Bond coat – dense, crack-free with good adhesion
- » Fine dust emission reduced by approximately 50% – suitable for all vehicles

*S&C: Sintered & Crushed,

**A&S: Agglomerated & Sintered

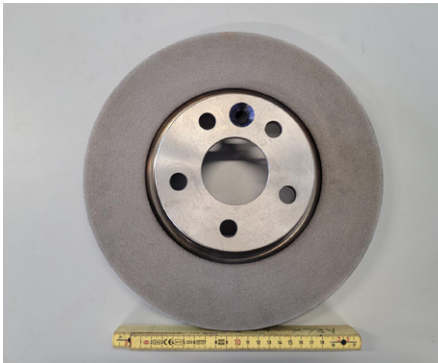
Höganäs' Single-layer Solution

For companies looking to unlock greater cost benefits, Höganäs offers a unique alloy for single-layer coatings. Single-layer coatings require less material and fewer process steps, delivering superior cost efficiency compared with multi-layer coatings. This material, Amperbrake 383, is a sustainable iron-based alloy free of toxic elements such as Ni, Co, and Cu.

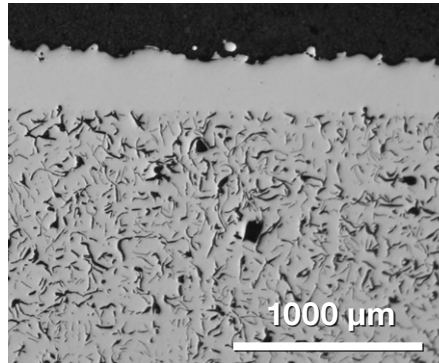
It is specifically designed for ultra-high-speed laser cladding, producing crack-free coatings with the following benefits:

- Excellent weldability across a wide process window, with consistent coating properties
- Improved wear resistance compared to cast iron
- Superior corrosion resistance, outperforming HSLC 430L

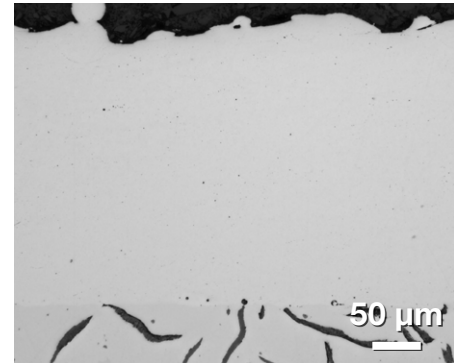
This solution is particularly well-suited for electric vehicles, where mechanical braking is used less frequently, providing tailored wear and corrosion resistance.



As-cladded disc, high-speed laser cladding.



Coating cross section as observed by LOM.



Whatever your priority—cost, performance, or both—and whatever the vehicle type—ICE, electric, or hybrid; light- or heavy-duty—Höganäs has the solution to support your success

For more information on Höganäs' products for brake disc coatings, please contact your local sales representative or scan/click the QR code to fill out a contact form.



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