



# Friction

Putting the brakes on cost, noise and wear.

For braking applications, materials and the knowledge behind them make the difference between noisy and quiet braking. Metal powder offers an excellent combination of durability and cost savings in resin-bonded and sintered brake formulations.

Höganäs provides the world's most comprehensive range of metal powders for friction applications. With unique particle morphology and featured metallurgical phases, our powder products provide distinct friction and wear characteristics with improved thermal diffusivity compared to non-metallic brakes.

With our products, know-how and services, we can provide better braking power and improve quality, efficiency and profitability.

In addition to friction powder solutions, we also offer a range of specialty powders tailored for advanced applications. These include chromium carbide ( $\text{Cr}_3\text{C}_2$ ), ferrophosphorus ( $\text{Fe}_3\text{P}$ ), prealloyed iron powders, and stainless steel powders.

## Main product benefits:

- » Lower brake weight and reduced material usage
- » Improved brake surfaces and excellent pad and rotor wear properties
- » Noise minimisation
- » Consistency across batches

## Basic metal powder range for friction applications:

Several factors determine the right powder for your friction application, including particle size distribution, apparent density and hardness (chemical composition and treatment).

Another important factor is powder particle morphology which is a direct result of the manufacturing method. Our products are manufactured by either chemical reduction or physical atomisation.

## Applications:

- Brake pads
- Brake shoes
- Clutch plates

## Industries:

- Automotive
- Aviation
- Railway
- Heavy-industry
- Micromobility



Products	Apparent density (g/cm <sup>3</sup> )	H <sub>2</sub> - loss (%)	C (%)	Particle size distribution (%)		
				+250 µm	+150 µm	-45 µm
				Sponge iron powders		
CR-15	1.5	0.7	0.2	31	87	1
M20/80-19	1.6	0.6	0.2	55	97	0
MH40.24	2.5	0.2	0.02	15	60	0
MH65.17	1.8	0.2	0.01	0	5	16
NC100.24	2.4	0.2	0.01	0	2	17
InSIP-A	2.1	1.8	0.02	0	8	12

Specialty powders						
EO20	1.10	28	<0.1	0	0	100
DL 177	2.7	0.25	0.01	0	15	13

Scan the QR code to learn more about  
friction brake materials and other  
Höganäs products.

