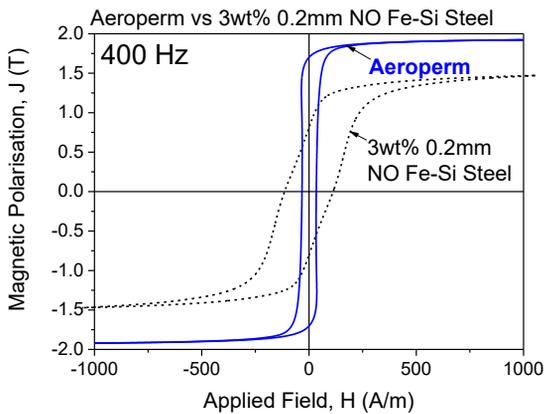


Longer range. Lower cost.

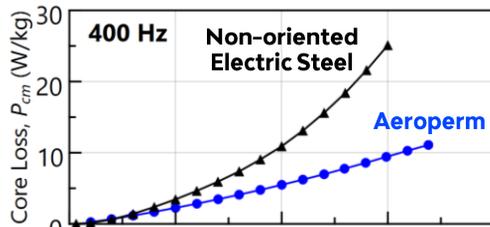


The world's only drop-in replacement stator core material that can deliver 5% WLTP3 range improvement.

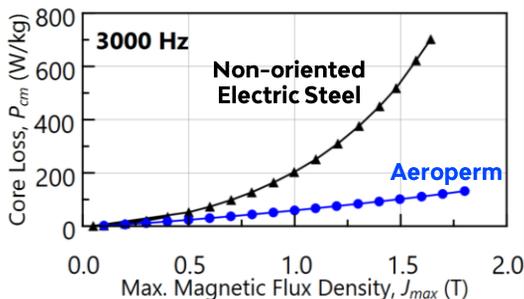
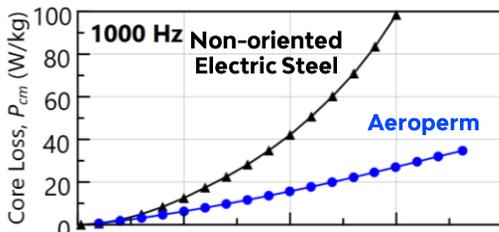


Aeroperm® is a breakthrough magnetic materials technology that directly replaces conventional iron-silicon steel stator cores.

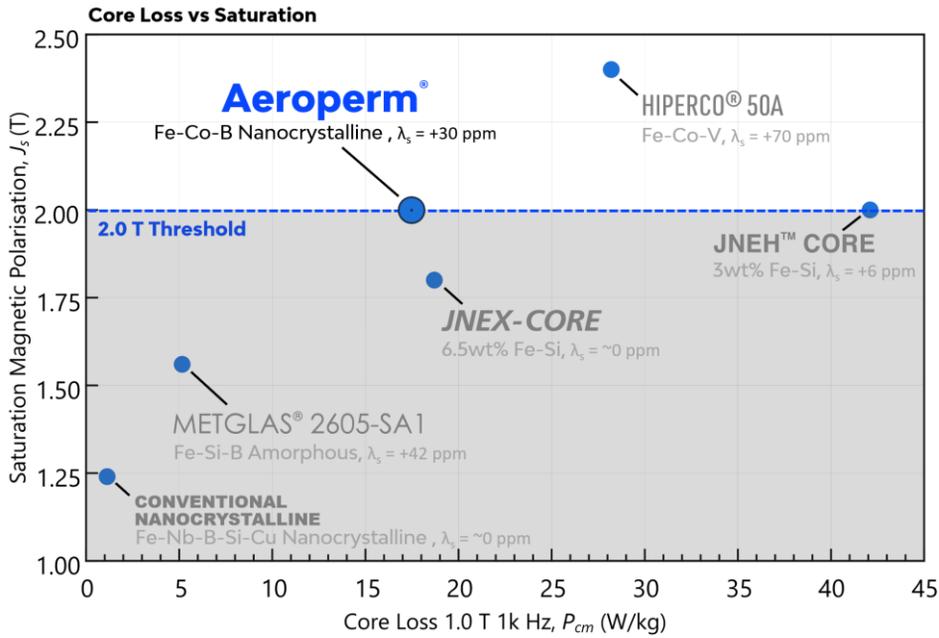
With no change to motor design or production tooling, Aeroperm® enables an instant upgrade of electric motor efficiency and power density.



Aeroperm®'s unique nanocrystalline microstructure cuts stator core losses by up to 97%, increasing WLTP3 drive cycle efficiency by between 3.5% (direct core replacement) and >5% (with optimization), enabling potential equivalent range increases or up to USD 800 in battery cost reduction per vehicle for a fixed range.



No redesign. No delay.
Instant performance. Billion-dollar savings.



Data sources: Carpenter Technologies Hiperco® 50A manufacturer datasheets (2025). JFE Electric Steel 10JNEX900 and 20JNEH1200 manufacturer datasheets (2017). Metglas 2605SA1 Technical Bulletin (2024). Ansys MOTOR-CAD Materials Library (2025). Parsons et al., JMMM, 476, 142–148 (2019)

	Aeroperm®	NO Electric Steel
Saturation Magnetic Polarization (J_s)	2.00	2.00
Coercivity, 400 Hz 1 T (H_c)	28 A/m	59 A/m
Electrical Resistivity (ρ_{elec})	52 $\mu\Omega \cdot cm$	55 $\mu\Omega \cdot cm^*$
Density (ρ)	7.65 g/cm ³	7.65 g/cm ^{3*}
Saturation magnetostriction (λ_s)	30 ppm	7.8 ppm [*]
Lamination thickness (t_{lam})	0.024 mm	0.20 mm
Typical stacking factor (L_m)	>92%	>96%
Core loss, 400 Hz, 1.0 T ($P_{cm 400/1}$)	5.5 W/kg	10.9 W/kg [^]
Core loss, 400 Hz, 1.5 T ($P_{cm 400/1.5}$)	9.4 W/kg	25.1 W/kg [^]
Core loss, 1,000 Hz, 1 T ($P_{cm 1k/1.0}$)	17.7 W/kg	42.1 W/kg [^]
Core loss, 1,000 Hz, 1.5 T ($P_{cm 1k/1.5}$)	27.0 W/kg	98.4 W/kg [^]
Core loss, 3,000 Hz, 1.0 T ($P_{cm 3k/1.0}$)	59 W/kg	203 W/kg [^]
Core loss, 3,000 Hz, 1.5 T ($P_{cm 3k/1.5}$)	101 W/kg	528 W/kg [^]

* Fe-Si steel data from JFE Steel Corporation, Electrical Steel Sheets, Cat.No.F1E-001-08.

[^] Fe-Si steel core loss data from Ansys Motor-CAD Materials Database

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