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Flexibility is exactly our thing

There are many complex applications for specialized lubricants in electric and hybrid vehicles, where these lubricants reduce friction and secure the requisite service life. Thermofluids are also playing an increasingly important role in electrified vehicles, as established coolants offer only limited suitability for use in drive and battery systems, primarily due to their electrical conductivity. Protecting the sensitive components from environmental influences represents another challenge that we are happy to accept.

We find the right solutions for any vehicle both reliably and flexibly – no matter whether for lubrication, cooling, or protection.

Lubricants

Fluids

E-axles Hybrid transmissions Shock absorbers

Greases

Electric motors Electric drive shafts Wheel-hub drives Electrical contacts E lectric brake booster Elec. steering systems

Thermofluids

E-axles
Battery
Fuel cell
Power electronics

Coatings

Corrosion protection

Battery casings Other components

Friction reduction

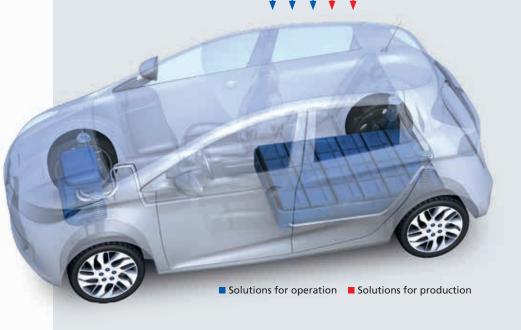
Sealings Plugs

Cleaners, coatings

Battery components Propulsion components Electronic components

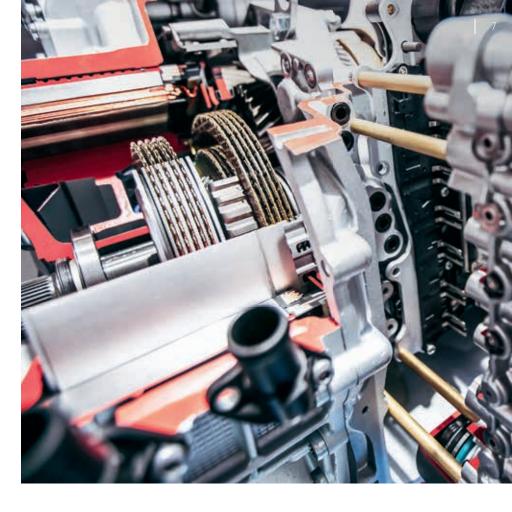
Fluids

Forming Drawing Punching Machining



Good ideas for your drivetrain

At FUCHS, we are well versed in developing suitable lubricants with ideal properties and high performance for new applications. High-end solutions for our customers can only be produced with dedicated products for extreme friction reduction and improved heat transfer, while complying with all requirements. Yet our customers are often also keen to use existing solutions in electrified drive systems. We are happy to test these to determine whether they can be used to meet new, additional requirements, as well as to help our customers select and adapt the respective system. Indeed, FUCHS is represented in many electric and hybrid vehicles of the leading premium manufacturers – whether dedicated or converted.



Lubrication Lube Drive- train	AXF Axle Fluid	MTF Manual Transmission Fluid	DCTF Double Clutch Transmission Fluid	ATF Automatic Transmission Fluid	E-DCTF, E-ATF Hybrid Transmis- sion Fluid (DHTF)	EDF E-Drive Fluid = E-Axle Fluid	EMG E-Motor Grease
Convetional drivetrain	~	✓	~	~			
Hybrid P0	~	✓	~	~			~
Hybrid PS/P2/P3/DHT	✓		✓	✓	✓		~
Hybrid P4 E-Motor dry						~	~
BEV/FCV E-Motor wet						✓	
BEV / FCV E-Motor dry						~	~

Always one step ahead!

Our many years of experience, intensive advance development, as well as major R&D laboratory and test bay capacities enable us to develop and test suitable solutions for new challenges together with our customers. Extensive expertise, speed, flexibility, and when necessary unconventional approaches secure reliable results here.

We would be happy to work with you in determining the right media for your tasks from the large number of potential solutions.









Achieving more together

Participating in joint research projects allows us to constantly find new ways of making drive systems even more efficient together with customers and valueadding partners. As a result, we can increase the achievable range in battery-powered electrical vehicles and minimize CO₂ emissions in hybrids, while helping to reduce costs for both.

One such joint project in which FUCHS is collaborating with other OEMs and suppliers is Speed4E. The objective here is to achieve both lubrication and cooling using just one fluid in a highly integrated drive system that reaches speeds of up to 50,000 rpm.





Simulation of the fluid flow in the high-speed transmission © FZG TU München





Note

The information contained in this product information is based on the experience and know-how of FUCHS LUBRICANTS GERMANY GmbH in the development and manufacturing of lubricants and represents the current state-of-the-art. The performance of our products can be influenced by a series of factors, especially the specific use, the method of application, the operational environment, component pre-treatment, possible external contamination, etc. For this reason, universally-valid statements about the function of our products are not possible. Our products must not be used in aircrafts/spacecrafts or their components, unless such products are removed before the components are assembled into the aircraft/spacecraft. The information given in this product information represents general, non-binding guidelines. No warranty expressed or implied is given concerning the properties of the product or its suitability for any given application.

We therefore recommend that you consult a FUCHS LUBRICANTS GERMANY GmbH application engineer to discuss application conditions and the performance criteria of the products before the product is used. It is the responsibility of the user to test the functional suitability of the product and to use it with the corresponding care.

Our products undergo continuous improvement. We therefore retain the right to change our product program, the products, and their manufacturing processes as well as all details of our product information sheets at any time and without warning, unless otherwise provided in customer-specific agreements. With the publication of this product information, all previous editions cease to be valid.

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