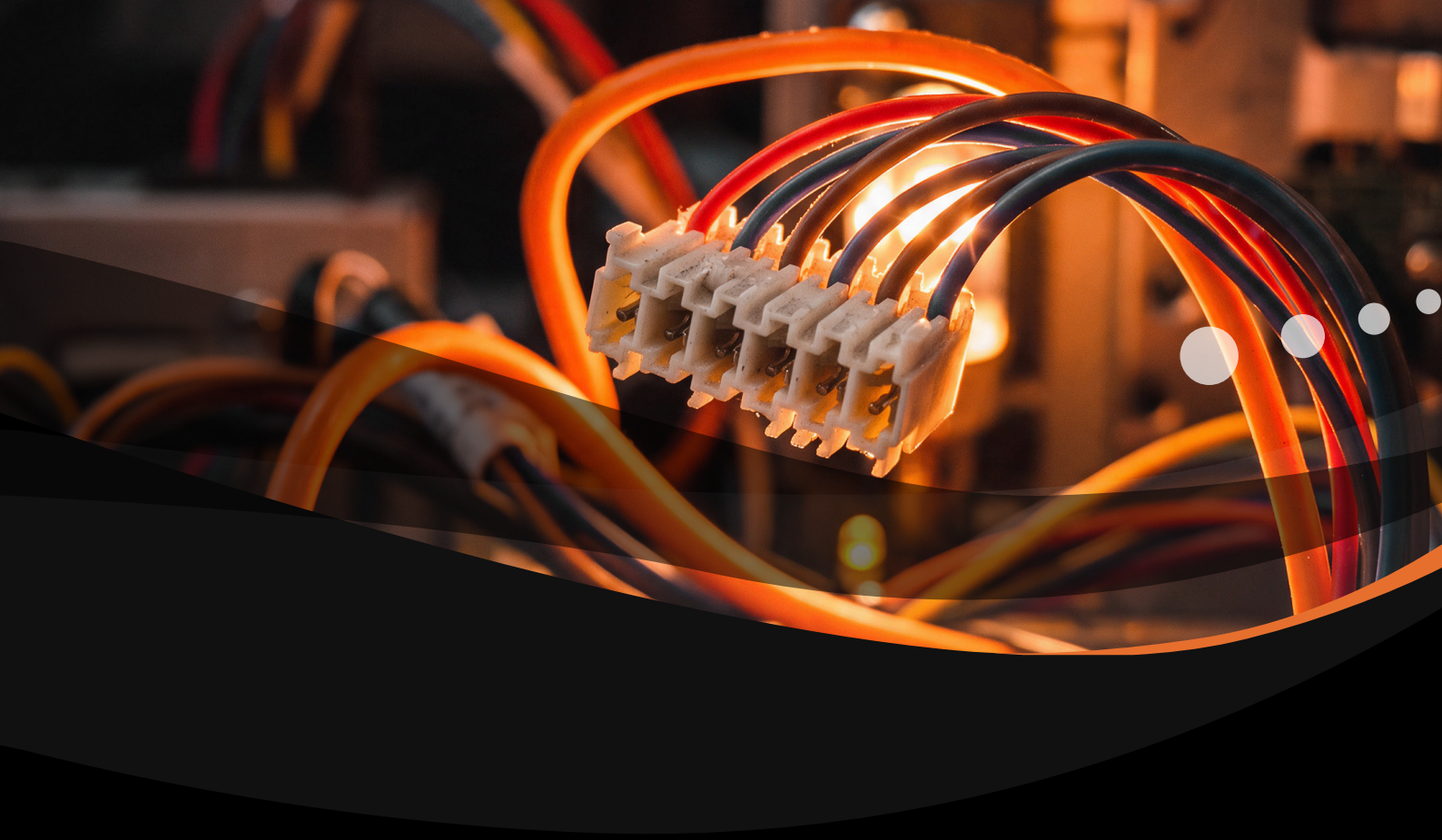


SPECIAL LUBRICANTS

for reliable electrical contacts

Features:

- Reduce friction and wear
- Protect against fretting corrosion
- Excellent oxidation resistance
- High thermal stability
- Compatible with alloys, plastics and precious metals

Benefits:

- Extend lifetime of electrical contacts
- Prevent formation of insolating surface layer
- Maintain low and stable contact resistance
- Reduced contact erosion caused by electrical arcing
- Increased productivity

setral® – Competence in Lubricants

Setral has been researching, developing and manufacturing special high-performance lubricants for nearly 60 years. Represented in over 90 countries we serve almost all industries. As your innovative and agile technology partner we leverage our R&D and production capabilities to meet your specific requirements.

setral®

Competence in Lubricants

Special lubricants for electrical contacts

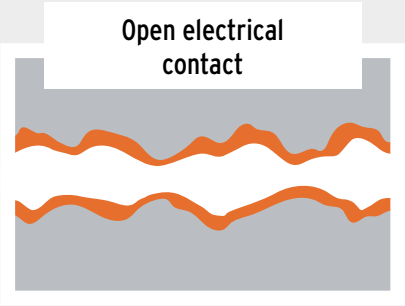
Why lubrication matters

Although lubricants are electrically insulating materials, they play a crucial role in ensuring reliable, long-term electrical contact performance. So why are lubricants used on electrical contacts?

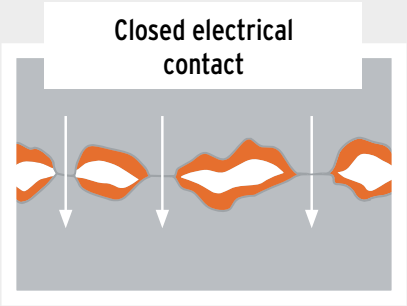
A closer look from a microscopic perspective shows the applied lubricant on the rough metal surfaces, which consist of peaks and valleys. During contact closure, the lubricant is displaced from the metal peaks at the electrical contact points and remains in the surrounding valleys. The direct metal-to-metal contact of the peaks allows the current to flow. The lubricant protects the surfaces against oxidation, wear and fretting corrosion.

The result:

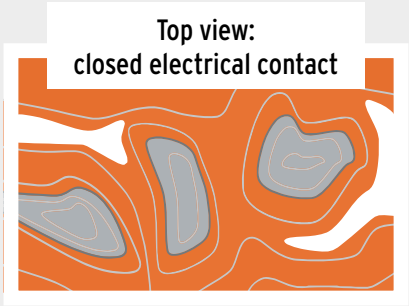
- Low and stable contact resistance
- Extended contact lifetime
- Reliable long-term performance



Lubricant covers the contact surfaces



Contact force displaces the lubricant from the microscopic contact points



Metal peaks are in contact while lubricant protects the surrounding surface

Tailored solutions for every application

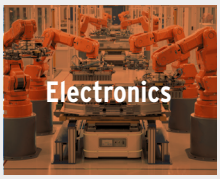
Every electrical contact has different requirements

For the selection of the proper lubricant knowledge of mechanical, electrical and environmental conditions of the electrical contact is the key.

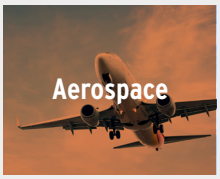
- » Reduce wear and friction
- » Reduce insertion and withdrawal force
- » Minimize fretting corrosion
- » Ensure the electrical contact
- » Low and stable contact resistance
- » Prevent arcing
- » Protect the conducting surfaces
- » Protect from oxidation
- » High material compatibility
- » Thermal stability
- » Aging stability

Industries













Choose the right lubricant
for your electrical contacts

For more information about individual products, technical or safety data sheets, please visit our website or contact our experts: info@setral.net

PRODUCT	BASE OIL	V40 [mm²/s]	THICKENER	NLGI	TEMP. RANGE [°C]	DESCRIPTION
HIGH-PERFORMANCE GREASES						
SYN-setral-INT/140 P-2	PFPE	140	PTFE	2	-50 – +250	Fully synthetic PFPE-based specialty grease for the lubrication of electrical contacts in high-voltage applications. Outstanding oxidation and thermal stability reduce contact erosion caused by electrical arcing. Ensuring reliable long-term contact performance makes it suitable for a broad range of applications, e.g., used in 12 kV electrical switches
SYN-setral-INT/90 M-2	PFPE	85	PTFE	2	-75 – +220 (short +240)	Fully synthetic PFPE-based specialty grease for extended lifetime lubrication of electrical contacts, especially in high-voltage applications. Outstanding oxidation and thermal stability reduce contact erosion caused by electrical arcing. The wide operating temperature range, low base oil evaporation makes it suitable for a broad range of applications even under demanding environmental conditions
SPECIAL GREASES						
SYN-setral-EK 339	Semi-synthetic	85	Lithium	2	-35 – +150	Specialty grease for lubricating electrical contacts, switch mechanisms, and small gears, such as those used in toothbrushes. Suitable for bolted electrical connections, double busbar systems, and silver- or gold-coated pin contacts in medium- and high-voltage applications
SYN-setral-EK 531	PAG	225	Inorganic	0 – 1	-30 – +200 (short +220)	Synthetic PAG-based specialty grease for lubrication and contact protection of electrical contacts and electronic components. Suitable for, e.g., switches, PCBs, potentiometers, automotive electronics and installation technology
SYN-setral-EK 2-400	PAO	380	Lithium complex	2	-40 – +150	Specialty grease for electrical contacts and switch mechanisms, reducing plug-in and sliding forces while providing high material compatibility. Particularly suitable for bolted connections in double busbar systems and medium- to high-voltage applications
SYN-setral-BE/1-46	PAO	46	Inorganic	1	-40 – +130	Multi-purpose special grease for plastic/plastic and plastic/metal components with excellent copper compatibility and particularly recommended as an assembly grease for switch manufacturing
SYN-setral-LI/C 2-100 NT	Synthetic	100	Lithium complex	2	-40 – +160 (short +180)	Fully synthetic lithium complex grease formulated with a highly oxidation-stable base oil for reliable electrical contact lubrication. Its fine thickener structure reduces friction and wear while providing excellent load-carrying capacity, high shear stability, and excellent material compatibility
SYN-setral-SD 2-100 NT	Synthetic	100	Inorganic	2	-40 – +200 (short +215)	Fully synthetic grease based on an inorganic thickener system with a highly oxidation-stable base oil for reliable electrical contact lubrication. Its formulation reduces wear, shows a low coefficient of friction and provides good material compatibility with excellent corrosion protection
PASTE						
MI-setral-7 N	Mineral oil	25	Inorganic with black solid lubricants	2- 3	-25 – +450	MoS_2 assembly paste with low friction and excellent wear protection suited for a wide range of applications in electrical contact mechanisms. Especially recommended for grounding contacts, e.g., on subway trains

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Successful in more than **90 countries** with satisfied customers





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All information in this document is based on our general experience at the date of the publication and thus is merely intended to give general note for possible applications. However, the contents do not guarantee the suitability of a product for an individual case and do not contain any guarantees of characteristics. The variety of possible applications requires to always run corresponding tests by the user before general application. Our products are continuously developed further. Therefore, we reserve the right to always change the technical data of our products at any time without prior notice. Misprints and alterations reserved. The listed references to approvals, recommendations and suitability of setral® products at various companies (brand names partly protected) reflect the status at the time of printing. Copyright: Setral Chemie GmbH. setral® = registered trademark. Version 11/2026

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