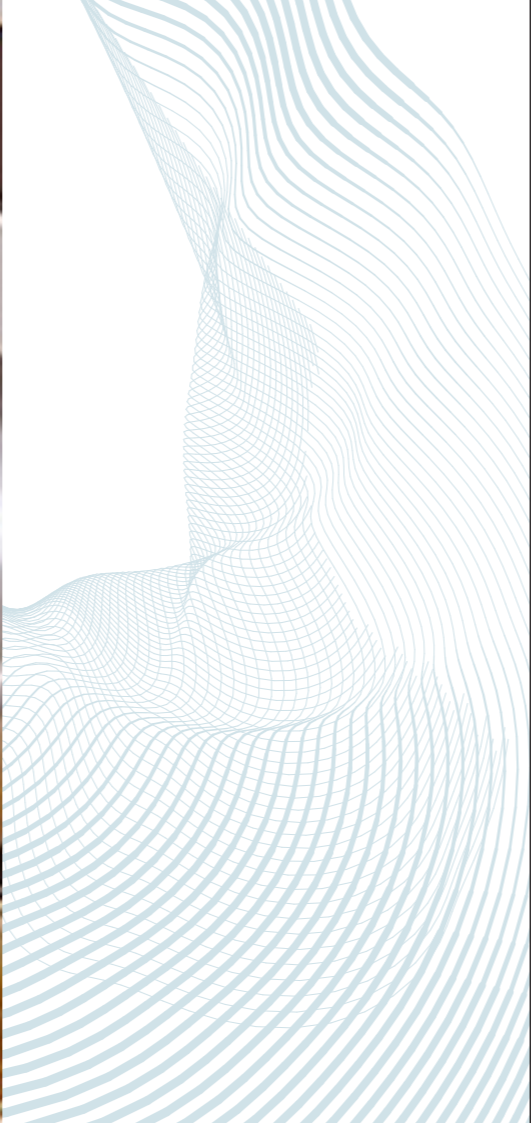


LUBRICANTS SERVICES



Take advantage of our expertise and our laboratory's experience in the field of lubricants



Founded in 1999 to offer the services and expertise of the laboratories of France's two incumbent railway operators (RATP & SNCF), Eurailtest is an independent organization delivering consultancy, engineering and testing services the world over. Eurailtest coordinates some dozen laboratories, each of which boasts many years of specialized experience in heavy and urban light rail testing.



The Railway Test Agency has all the necessary scientific and technical skills to perform stationary tests, running behaviour tests and laboratory tests. It is ISO 9001, ISO 14001 and OHSAS 18001 certified and has ISO 17025 accreditation (COFRAC) for a variety of tests (scope of tests available at www.cofrac.fr, under accreditation reference no. 1-6879). Its broad expertise means it can meet the testing and skills requirements of different entities, assisted by 15,000 pieces of measuring equipment, 200 employees, 80 years of experience and a range of certified activities. The AEF laboratory team has acquired a wealth of experience with lubricants, greases and oils, together with various analytical techniques for characterizing the running performance of these products. Tests can be conducted to determine the cause of a lubricant's failure and explain it. Experts can determine a lubricant's dropping point (maximum temperature for use), oxidization and antioxidant reserves (combined high temperature and air impact), wear metals (generated by the friction of component parts in contact with one another) and its moisture content (external pollution).



Do you need a diagnosis of your lubricant?

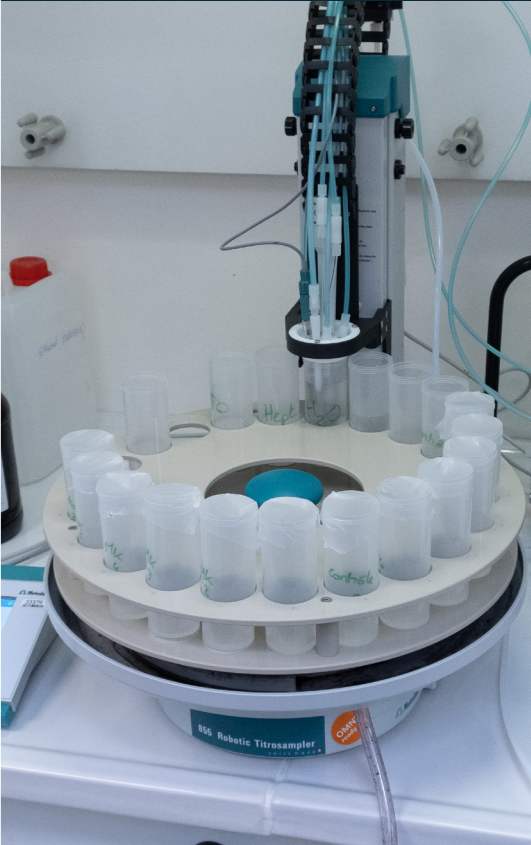
Railway infrastructures, like most other industrial environments, require numerous mechanical components to be lubricated with oil and grease to avoid any wear or overheating caused by service stresses. The durability of the function they perform depends directly on how the physico-chemical characteristics of the lubricant are maintained over time, together with the quality of all associated maintenance.

Experts at our partner railway testing laboratory can provide you with:

- A comprehensive range of services
- Four different or complementary types of monitoring
- COFAC-accredited tests compliant with the NF EN ISO/IEC 17025 standard.
- Scientific and technical expertise

Laboratory strengths

- The lubricants services are COFAC-accredited and compliant with the NF EN ISO/IEC 17025 standard
- A team of scientific and technical experts
- Administration of 350 lubricants used in a variety of rolling stock applications
- A range of special themes: chemistry, materials, physical measurements
- State-of-the-art equipment: plasma torch spectrometer, scanning electron microscope, etc.
- A wealth of customer feedback enabling it to best meet all new SNCF internal and external needs.



The important role of lubricants

Many lubricants are used onboard rolling stock and in railway infrastructures to ensure optimum performance. These lubricants, comprising both oils and greases, help to extend the useful life of equipment by addressing problems such as the friction, wear or corrosion of surfaces in contact with one another. Their many functions help to maintain the performance of components: air/water tightness, removal of calories and impurities. The durability of the function they perform depends directly on how the physico-chemical characteristics of the lubricant are maintained over time as well as the quality of all associated maintenance.



What requirements do lubricants meet?

- Maintenance, by optimizing the procedures for maintaining rolling stock;
- Financial, by optimizing the steps for lubricating components and the useful life of lubricants themselves;
- Environmental, by encouraging the use of biodegradable or eco-friendly lubricants wherever possible;
- Safety, by protecting components from failures or breakages, from a simple breakdown to a train derailment.

YOU ARE LOOKING TO



QUALIFY

New product qualification tests



FIND THE ORIGIN OF A FAILURE

Determine the cause of a lubrication defect



IMPROVE MAINTENANCE

Optimize your maintenance operations

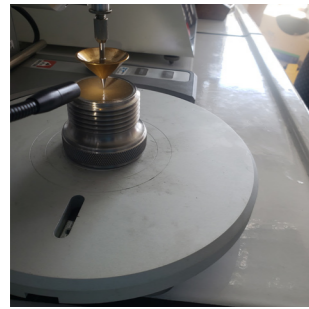


OPTIMIZE POTENTIAL

Maximize the useful life of a lubricant

OUR SERVICES

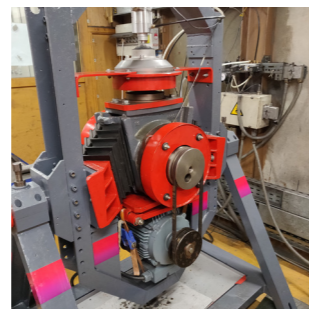
↳ New product qualification tests



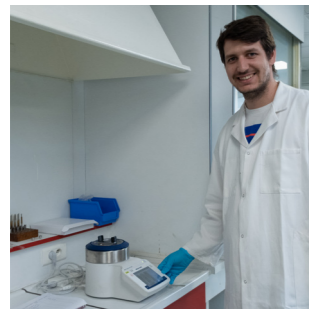
Measuring a grease's worked or non-worked penetrability at ambient or low temperature (COFRAC)



Measuring a grease or oil's moisture content (COFRAC) using a coulometer



Measuring a grease's resistance to impacts and vibration on the ROPECS and V2F rigs



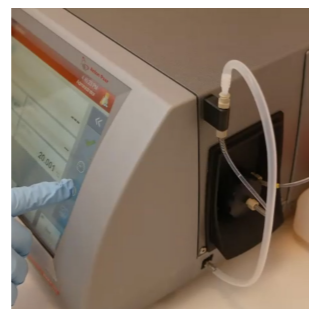
Measuring a grease's dropping point (COFRAC)



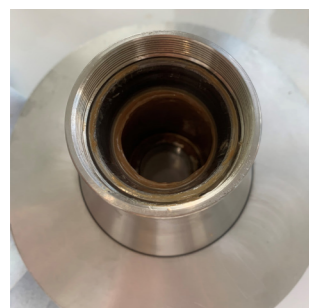
Assessing a grease's lubricating power and performance at high temperature on the R2F test rig



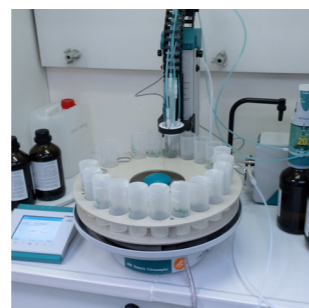
Measuring a grease's storage stability



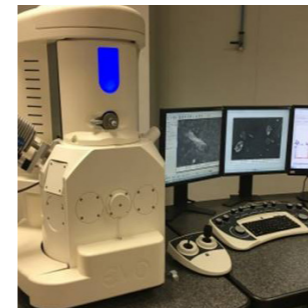
Measuring an oil's viscosity at different temperatures



Measuring a grease's dynamic dye penetration (COFRAC)



Measuring an oil's acidity

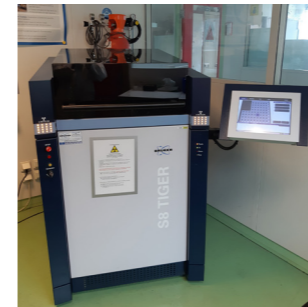


↳ Failure analysis

Identifying any degradation in the lubricant and determining its remaining lubricating power. Measuring component wear by identifying wear metals

↳ Maintenance improvement

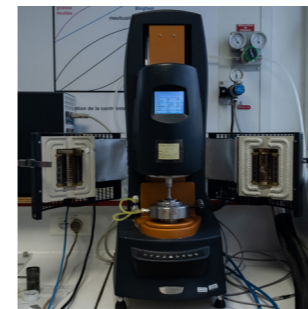
By developing on-site analytical tools (e.g. X-ray fluorescence at TGV Technicentres to monitor transmission component wear)



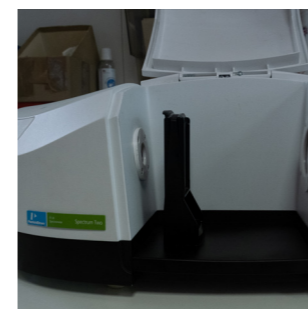
Fluorescence X : measuring wear metals in technicentre

↳ Deferment of potential

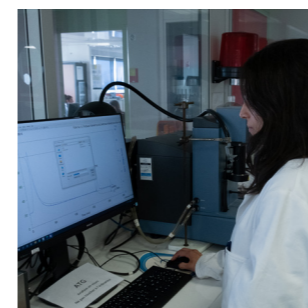
Assessing the condition of a lubricant at different steps to optimize its maximum useful life



Rheology: assessing the flow and deformation of a grease / searching for any possible mechanical degradation due to shear stress



IR: identifying a lubricant's footprint / assessing the chemical degradation of a lubricant due to oxidization



Thermogravimetric Analysis: assessing a grease's lubricating reserve via its loss of mass

TRAINING:

Training offered by the AEF:



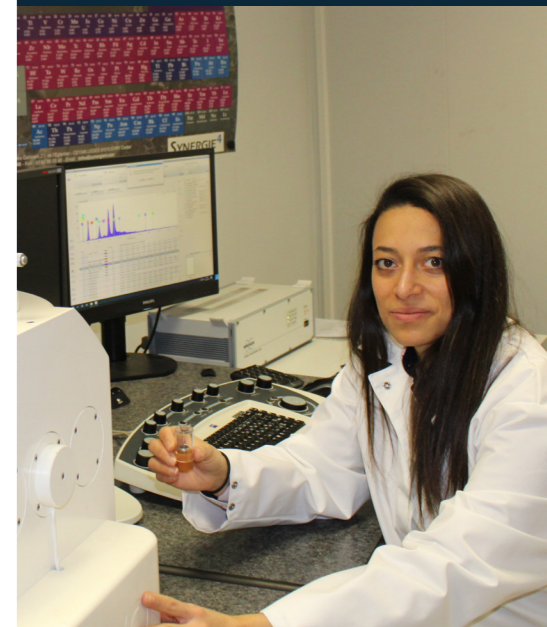
Gain expertise in axle box greases using the three senses of smell, sight and touch

For railway operators: do you want to anticipate a specific service or problem or improve your decision-making process?



Acquire a basic understanding of lubricants (roles, types of lubricants, handling, storage, diagnostics, expert advice)

Suitable for everyone: learn more about lubricants.





FOR MORE INFORMATION,
PLEASE DO NOT HESITATE TO CONTACT US



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