

impuls

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Editorial

As a medium-sized family business, we don't measure success in quarterly figures; we measure it in customer satisfaction. That's why we specialise in meeting

the requirements of highly demanding industries, including aircraft, automotive, energy, food, engineering and steel. We know the many varied and individual challenges you face. We understand your processes and workflows. And our specialists speak our

customers' language. That means we can provide our customers with targeted, rapid and comprehensive support and tried-and-tested solutions: Safer process. Safer profit.

Discover the industry expertise that we have to offer:

<http://www.rhenuslub.de/en/industries.html>

Dr. Max Reiners

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News

Fraunhofer Institute Success through parameters

How can companies save an average of 18.3 percent of their fluid process costs? Simple — with a new system of informative parameters based on empirical evidence. Experts from the worlds of business and science learned more about the innovative methodology developed by the premium system provider Rhenus Lub at the "Micro-production in practice" workshop held at the renowned Fraunhofer Institute IPK. The audience heard a talk entitled "High-performance coolants — specific parameter

system for top performance" from Meinhard Kiehl, Director of Marketing, Product Management: "Choosing the right coolant guarantees maximum processing precision and maximum cost-effectiveness in the entire fluid process for our customers. With rhenus lubrication, we use an intelligent system of up to 20 parameters to determine all of the major factors regarding the workpiece and the fluid with precision, and optimise the entire processing chain".

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Expert Meeting More knowledge, more skills

If you want to be one of the best, then you need to know more than the rest. That's why Rhenus Lub places more emphasis than virtually any other company on providing intensive training for all staff. Top-class specialists from various fields in metalworking were once again invited to Mönchengladbach to take part in the Rhenus Lub Expert Meeting.

Here is an overview of the contributions:

- "Current aspects in chipping technology" (*H. Lung, Laboratory for Machine Tools and Production Engineering [WZL] Aachen*)
- "Tool-cutting materials and coatings" (*H. Metternich, Sandvik*)
- "Managing and disposing of coolants" (*H. Metzger jun., MKR*)
- "New methods in preventive coolant monitoring" (*Dr. Schlindwein, Rhenus Lub*)
- "Conventional and super-hard grinding tools — basic knowledge of toolmaking and performance characteristics" (*H. Rucker, Saint Gobain*)
- "Energy-efficient use of coolant pumps in coolant systems" (*Dr. Wenderott and Dr. Helpertz, Brinkmann*)
- "Practical examples of optimisation of coolant supply in the industry" (*H. Grün, Cool-Grind Solutions*)
- "Comparison of filter systems/grades of filtration" (*H. Kupper, Hoffmann Filtertechnik*)

RWTH Aachen Coolants redefined

Visitors to the third Aachen Coolant Conference, to be held from 12 to 13 November 2013 at RWTH Aachen, can expect to learn more about "Practical solutions for the economic and ecological use of coolants". As part of a panel of top-class experts, Dr. Hans Jürgen Schlindwein, Head of the Coolant Laboratory at Rhenus Lub, will present "New methods in preventive coolant monitoring".

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A two-day package of expert knowledge at Rhenus Lub — and our customers can benefit too. Enquire today!

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Dipl.-Ing. Dieter Lung from the Laboratory for Machine Tools and Production Engineering at RWTH Aachen talked about current aspects in chipping technology

High-performance grinding oils

Grinding process reliability and reduced costs with rhenus CXS

rhenus CXS special oil guarantees high performance and process reliability in full-form grinding processes for gear applications. It also combines the most effective properties of various non-water-miscible coolants for grinding, honing and finishing processes.

The most impressive feature of this high-performance grinding oil is its low viscosity of 10 mm²/s at 40 degrees Celsius, ensuring rhenus CXS provides improved cooling performance and flushing characteristics, as well as reduced drag-out loss. This allows the innovative high-performance grinding oil to make a noticeable improvement in production quality during processing of gear teeth and profile parts, impressing some leading tool machine manufacturers: rhenus CXS is now approved for use in machines at Reishauer AG, Gleason Corporation, Kapp Group (Kapp and Niles brands) and Junker Maschinenfabrik.

Optimal processing results

The chlorine-free and zinc-free special oil is suitable for processing both low and high-alloy steels in a soft, tempered or hardened state. According to Kapp Group testing specifications, rhenus CXS achieves a performance indicator of 151 percent, providing optimal processing results in machine and grinding wheel interaction.

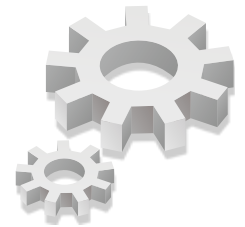
rhenus CXS also prevents grinding burn at full utilisation of machine capacity. By switching to the high-performance grinding oil, Rhenus Lub customers can increase their production capacity and reduce process costs while maintaining a high level of quality in production.

The special feature of rhenus CXS is that this product enables different non-water-miscible coolants to be combined that would normally be used on the gear machines above. In this way, Rhenus Lub is giving customers the chance to make a substantial reduction in production costs, maintenance costs and storage capacity, making the production chain more cost-effective over the long term.

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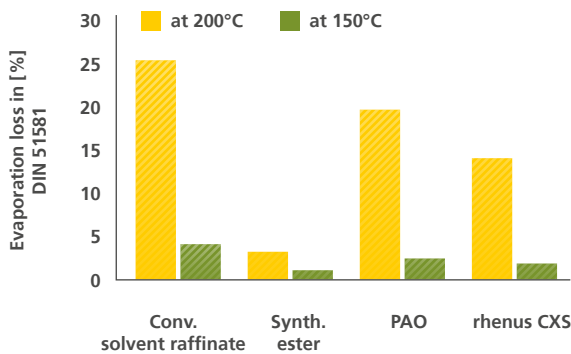
Key properties of rhenus CXS at a glance

- Makes production process more cost-effective
- Improves tool service life
- Prevents grinding burn
- High cooling and flushing performance
- Low oil mist and evaporation
- Highly safe
- Can be used on all tooth flank grinding machines
- Also suitable for milling gear teeth



Comparison of evaporation loss in base fluids

(based on 10 mm²/s at 40°C)



Rhenus Lub internal

"Passion"

A passion for respect and performance

To celebrate 130 years of Rhenus Lub and his 60th birthday, owner of the Mönchengladbach lubricant specialist Dr. Max Reiners gave employees a very special gift. English professional photographer Jon Stroud spent a year in Mönchengladbach and at the Rhenus Lub subsidiaries in France, Spain and the Netherlands photographing employees and industrial scenes, creating a unique photo album.

Jon Stroud's impressive black-and-white images are presented over 200 pages and capture the passion of our employees as they strive to achieve what the company initials RL represent: respect (Respekt) and

performance (Leistung). So for this unique album, there was only ever going to be one title — "Passion".

The foreword for this superb work was written by Dr. Max Reiners, member of the German Bundestag Dr. Günter Krings, science journalist Dr. Nicola von Lutterotti and photographer Jon Stroud.

"Passion" is so exceptional that it has been added to the holdings of some major libraries, including the library of the Heinrich-Heine University Düsseldorf and the German National Libraries in Leipzig and Frankfurt.



Over its 130-year

history, Rhenus Lub has always stayed true to its principles — and has remained a family business. "We have always seen ourselves as a family business, even when the term fell out of favour, and before it became a mark of quality during the financial crisis", explained Dr. Max Reiners in an interview with the Rheinische Post newspaper. The company's anniversary was also very much in keeping with the principles of the Rhenus Lub family. Over 200 employees and their families marked the double celebration with a big family party. And all employees received a very special gift: As a thank-you for their commitment, the Reiner family gave each of them a personal copy of the photo album "Passion".

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Rhenus Lub S.A.S.

Rhenus Lub develops new coolant in collaboration with French subsidiary

The ongoing economic crisis in France is impacting industry and putting customers under pressure: Decision-making structures have had to change, and companies have had to take financial factors into consideration where previously they would have based their decisions purely on the technology available. To ensure it can respond to the new market conditions, Rhenus Lub has worked with its subsidiary in France, Rhenus Lub S.A.S., to develop rhenus TS 420 — a powerful, polyvalent, water-miscible coolant that meets the special French legal requirements.

"For our chemists and engineers, it was a real challenge to develop a competitive product that only uses the additives allowed in the market to improve its long-term stability", emphasises Fabrice Himpan, Managing Director of Rhenus Lub S.A.S. Even the best coolants need to be tested in advance in the relevant machines to ensure that their composition is effective. "There are too many parameters to consider, like the machinery, working processes and materials, for us at Rhenus Lub to handle this project alone", says Fabrice Himpan.

That's why the coolant specialists worked closely with a major customer in the French automotive industry. "This was a real win-win situation, both for our partner and for us", says Himpan.

"Our partner expects to achieve cost savings of over 20 percent by using the new coolant".

Fabrice Himpan, Rhenus Lub S.A.S.

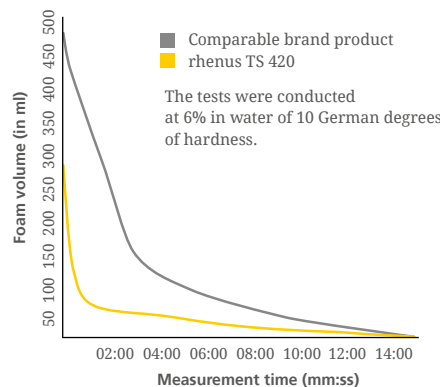
Together with a specially trained team from Rhenus Lub S.A.S., two central systems and 18 machines at the automotive industry partner were emptied, cleaned and filled with rhenus TS 420. The new coolant has already been in use for several weeks, with successful results.

"Our next step is to optimise the process and get the most out of it for our customer", says Fabrice Himpan, adding: "Our partner expects to achieve cost savings of over 20 percent by using the new coolant".

Based on this win-win situation, the customer has already signed a three-year contract with Rhenus Lub S.A.S., and has announced that it wants to switch two more of the Group's plants to rhenus TS 420. "Our partner wants to do it sooner rather than later", says Fabrice Himpan. "The only way this can happen is by ensuring a close working relationship based on trust and honesty between our partner and the product management team in Mönchengladbach", underlines the Managing Director of Rhenus Lub S.A.S.

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Foam degradation



Rhenus Lub representing Germany around the world



Deutsche Welle TV was invited to film at Rhenus Lub premises in Mönchengladbach in September. A camera crew from Germany's official international broadcaster was on-site for a total of five hours. To mark Anuga 2013, the world's leading food fair, DW TV delivered a report in four languages on 16 October 2013 about special lubricants for use in food technology. Rhenus Lub is synonymous around the world with high-performance German products, particularly with its halal food fats that meet the strict requirements set out in the Koran. Find out more:

<http://mediacenter.dw.de/german/search/halal/>



Dr. Max Reiners (centre) and Dr. Carsten Puke (right) during filming



Greases

rhenus CXN 25

Heavy-duty work 1200 metres below the summit of the Alps

Some 1200 metres below the summit of the Lavanttal Alps, two 1800-ton, 160-metre long telescopic shield tunnel boring machines, with a diameter of almost ten metres and a maximum cutting torque of 30,000 kilonewton metres, are cutting through 33,000 metres of solid rock. In order to work, they need rhenus CXN 25 high-performance grease from Mönchengladbach.

Below the foothills of the Austrian Alps, one of Europe's most important infrastructure projects is currently being realised: The Koralm Tunnel is the centrepiece of a new, 130-kilometre long high-speed rail line with two tracks running between Graz and Klagenfurt.

Since late 2012, two telescopic shield tunnel boring machines have been drilling the two tunnels for the new Koralm railway through the hard rock of the Koralm. These two high-tech giants are given optimal protection from dust, earth and water ingress by rhenus CXN 25. Whether used in tough applications as a lubricant for labyrinth seals and main bearing radial shaft seals, or as a shield grease, this rapidly bio-degradable, special calcium-saponified grease with a special base oil provides premium quality. The benefit for customers is clear: Just one single and completely environmentally friendly grease is required in applications that previously demanded the use of multiple products.



Source: ÖBB

Impressive: Telescopic shield tunnel boring machine, 1800 tons, 160 metres long

The two shield tunnel boring machines need a total of 300 tons of high-performance grease for this heavy-duty work. This enables them to quarry thousands of tons of material, most of which is re-used in the tunnel construction itself or as loose material along the track. The criteria for choosing the right grease are clear: As well as strong sealing power and good greasing properties, it is crucial that it is an environmentally friendly product. "Green technology and the ultimate in performance — we have brought these two requirements

together perfectly in the shape of rhenus CXN 25", explains Product Manager Dr. Piotr Tkaczuk. "The high-performance grease has already proven to be the ideal solution in the field at a host of top shield tunnel boring machine manufacturers. It is highly mechanically stable and provides reliable adhesion at the points where the work is completed, protecting them from water, dirt and corrosion. If it gets into the soil, then the special calcium-saponified grease rapidly bio-degrades".

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"Green technology and the ultimate in performance — we have brought these two requirements together perfectly in the shape of rhenus CXN 25"

Dr. Piotr Tkaczuk, Rhenus Lub

Coolants

Slideway oils

Coolants versus slideway oils: The right product combination is crucial

Tool machines with slideways use various types of fluid to ensure maximum positioning accuracy, a high level of surface quality and the narrowest tool tolerances possible. However, they can only be effective if the right combination of coolants and slideway oils is used. Yet the importance of the interaction between these fluids is often underestimated or disregarded completely: It is not just the slideway oil that must be able to prevent the unwanted stick-slip phenomenon, but the combination of slideway oil and coolant emulsion. This is why Rhenus Lub offers products that are effective when used alongside coolants.

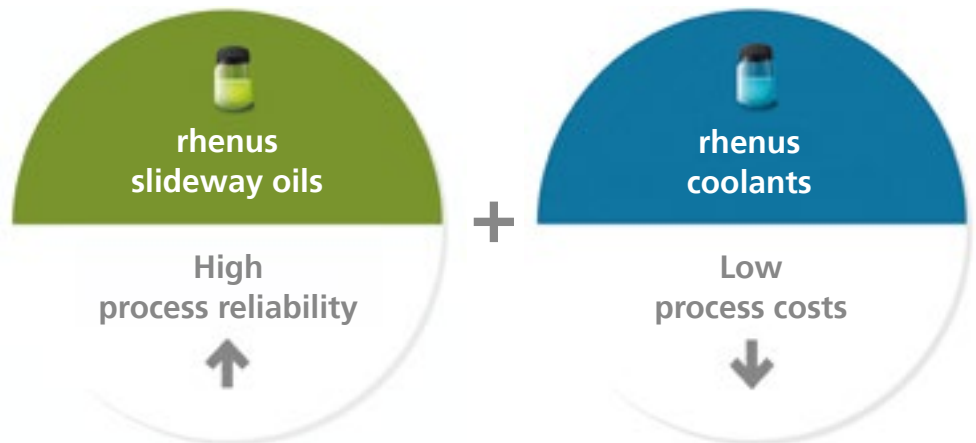
rhenus SLA 68 and rhenus SLB 220 slideway oils are ideal for use in state-of-the-art NC and CNC-controlled automatic units and production systems. The products offer rapid and precise de-emulsification properties, particularly when interacting with rhenus coolant emulsions, preventing the unwanted stick-slip phenomenon. The special oils differ only in terms of their viscosity and flash point.

"The correct combination of fluids is essential to preventing the stick-slip phenomenon", says Meinhard Kiehl, Director of Marketing in Product Management at Rhenus Lub. For this reason, Rhenus Lub inspects the de-emulsification properties between the coolant and slideway oil on the basis of the SKC test, to ensure optimal processing results are achieved. "Process reliability and positioning accuracy are the biggest factors for customers", says the coolant expert.

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The benefits of rhenus SLA 68 and rhenus SLB 220

- Low stiction levels
- High pressure absorption capacity
- Prevent stick-slip
- Very good corrosion protection
- Excellent wear protection
- Very good de-emulsification properties with coolants



United Nations Global Compact

Sustainability

We take responsibility

Rhenus Lub is a company synonymous with responsibility, innovation and quality. Its customers and partners can always be sure that the lubricant specialist, based in Mönchengladbach, Germany, is pursuing these goals as it is an active member of the UN "Global Compact" initiative—the world's largest and most important corporate social responsibility (CSR) network. The issues of environmental responsibility, occupational health and safety and social commitment are firmly rooted in the Rhenus Lub corporate culture. This membership therefore drives the company to meet its own quality targets, enabling all stakeholders to benefit.

As part of the Global Compact initiative, Rhenus Lub has pledged to issue an annual progress report detailing how it is supporting the UN's principles and implementing them within its area of responsibility. Its goal is to make the economy fairer and more sustainable, and to find solutions to the challenges we face today.

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View the progress report online:
<http://goo.gl/cPf7zM>



Rhenus Lub international

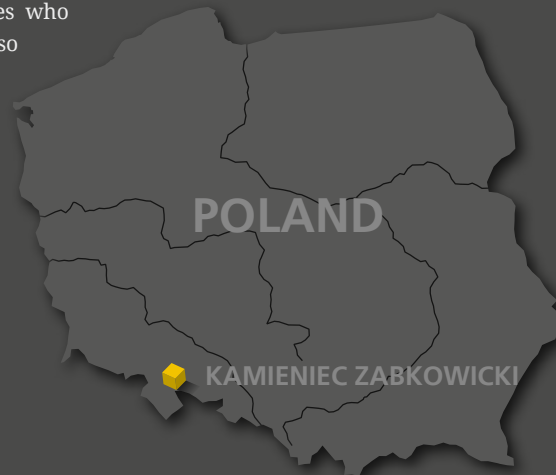
**Reliable sales partner in Poland:
RTM Adam Mazur**

 *Rhenus Lub and RTM Adam Mazur have been operating together in the Polish market for two years. For the lubricant specialist, based in Mönchengladbach, Germany, the businessman from Poland, whose sales office is located in Kamieniec Zabkowicki, has been a real find: Before setting up independently, he worked for many years as managing director of a Swiss tool company. This puts him in the best possible position to support customers from the Polish metalworking industry with relevant expertise, and give them appropriate advice in all areas of coolant applications.*


"We have a great deal of faith in Adam Mazur and the work he does", says Hans van Gerwen, Manager of International Business at Rhenus Lub. "Just like at our company, he puts the customer's full range of requirements first". It is not just Polish companies who benefit from this approach, but also German companies who operate production facilities in Poland. "When they work with our partner, these companies can be absolutely certain that they are getting high-quality and, above all, innovative coolants from Rhenus Lub", emphasises Hans van Gerwen.

One factor that is certainly testament to the work Adam Mazur does is his customer base, which continues to grow.

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Rhenus Lub at Metavak trade fair in the Netherlands

 *VDL Enabling Technologies Group has officially approved rhenus TU 43 P for use in product processing at one of the leading chip machinery manufacturers in the Netherlands. To spread this news to as many customers as possible and let them know about the benefits of this coolant, Rhenus Lub opened a stand at the Dutch industry trade fair for metalworking, cutting tools and moulding tools, Metavak Gorichem, from 5 to 7 November.*

from this region", says Marcel Gros, Managing Director of Rhenus Lub B.V. in the Netherlands. "So this trade fair is a great opportunity for us to let our customers know about our latest innovations, and give them more information on how rhenus TU 43 P can benefit them in their own applications". The lubricant combines high performance with cost-effectiveness and process reliability. Its powerful special additives enable rhenus TU 43 P to achieve optimal results in demanding machining applications for steel and cast iron, as well as titanium and aluminium alloys.

Rhenus Lub had already presented its innovations to Dutch industry visitors at Metavak Hardenberg from 3 to 5 September. Manufacturers and retailers from the machining industry and other fields were able to find out about the range of amine and boric acid-free coolants^{RL} from Rhenus Lub. "We want to increase the level of personal contact with our customers and reinforce our direct sales", emphasises Marcel Gros.

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"Our products are very well represented here. Two thirds of our customers come



The Rhenus Lub stand at Metavak in September of this year

Legal note

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