

# ELGI 2021 Virtual Spring Events

19<sup>th</sup> – 27<sup>th</sup> April 2021

ELGI-STLE Tribology Exchange Workshop; Working Group Meetings; Grease Symposium



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## Working Group Meetings Programme 21<sup>st</sup> – 23<sup>rd</sup> April 2021

1. Food Grade Lubricants WG	Wednesday 21 <sup>st</sup> April	12:00 EU Time
2. Grease Particle Evaluation WG	Wednesday 21 <sup>st</sup> April	14:00
3. Bio-Based WG	Thursday 22 <sup>nd</sup> April	12:00
4. Test Methods WG	Thursday 22 <sup>nd</sup> April	14:00
5. Railway Lubricants WG	Friday 23 <sup>rd</sup> April	12:00

## Summary of the October 2020 Virtual Working Group Meetings

### Food Grade Lubricants Working Group



Chairman: Andre Adam  
ELGI Treasurer/Director  
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*Food lubricants are among the most crucial products in the food chain. Small volumes with high impact. As food safety is more and more in the centre of the news, as is shown with the recent EHEC troubles in Germany and France, we as an industry must continue to react and be proactive. It is in the industries interest to cooperate with decision takers to define and meet global standards. The Joint food grade Lubricants Work Group is the platform where future developments in standards and legislation are reviewed.*

At the October meeting, a presentation was made on how to deal with questions from the food market related to MOSH and MOAH found in final food. The presentation raised few questions and comments and has been posted on the ELGI website in the members section.

Further topics discussed:

NSF informed that opening additional categories H4 surface treatment products and H5 cutting fluids were reviewed but deemed not to be beneficial.

The issues of double registrations, H1 and H2, as well as H1 and 3H were raised. H1 and H2 double registrations are likely to end according to NSF. It was considered that the H1 and 3H should be more of a matter of training. This is being worked on now. NSF and 2Probitry will report back at the next FGLWG meeting.

A further topic was the concern in the oil industry about the PFAS levels allowed in the EU for the ADI. We could possibly follow up on this matter, but the influence we as the lubricant industry might have on this topic is limited.

## Grease Particle Evaluation Working Group



Chairman: Joe Kaperick  
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*The objective of this working group is to establish a test method to measure grease cleanliness.*

In October, the Grease Particle Evaluation WG continued their discussion regarding use of the Hegman gauge to evaluate the number and size of particles in greases. Results of a second set of evaluations using some minor method modifications seem to have improved reproducibility and led to agreement to carry out a full round robin on the improved method. Participants are being recruited and samples being gathered for what is hoped to be the last step before publication of the finalised method.

Parallel discussion has been held within the Grease Subcommittee of the ASTM standards organisation and it is intended that the draft copy of the method including the most recent modifications will be put out to ballot within the grease subcommittee. This will allow time for discussion and agreement within this smaller group before it is put out to a full vote of ASTM D.02 Petroleum Products and Lubricants Committee. It is possible that a final method could be published within ASTM by the end of 2021. It is hoped that the round robin can be conducted in early 2021. Anyone wishing to participate in the round robin or to make suggestions on samples to include should contact the chair.

## Biobased Greases Working Group



Chairman: George .S. Dodos  
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*The mission of the WG is to ensure that a more robust and viable biobased grease industry evolves for the benefit of the lubricating grease industry. The emphasis of this working group will be primarily on performance aspects of biobased greases.*

Adapting to the new era that COVID-19 challenges raised, the first Biobased Greases Performance virtual meeting took place on 17<sup>th</sup> October instead of the face-to-face meeting that was traditionally held during the ELGI Autumn Events in Amsterdam. There were more than 40 participants and group members who contributed to a successful and constructive digital meeting.

After completing the finishing touches on the oxidation stability study, the progress of the cold flow performance evaluation project was discussed. The possible update on the list of the method/protocols that could be employed in this project - either modified or not, - was discussed based on the overall evolutions in the field as well as the inclusion of certain protocols in the new NLGI HPM-LT specification.

Further work will focus on the determination of the critical temperature of the system when studying the time-storage effect of biobased greases at low temperatures, before moving to the planning of the round robin test. Low temperature rheology appears to be the candidate method towards this specific scope. The meeting continued with an update on the VGP-VIDA regulations and a short discussion on hydrolytic stability of biobased lubricating greases being a new performance topic to be evaluated by the WG.

## Railway Lubricants Working Group



Chairman: Matt Smeeth  
PCS Instruments

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The railway group had a very useful meeting, with approximately 40 virtual attendees from 12 countries. The results from a recently completed round robin on top of rail material was presented and the results discussed. The method developed by the group shows good discrimination between flange greases and top of rail materials and will be included in an upcoming DIN standard. The work of the group continues to assist in the development of products giving benefit to the rail transport network in Europe and beyond.

## Test Methods Working Group



Chairman: Olav Höger  
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*The goals of this committee are to collect today's user requirements, standards and guidelines for the wheel/rail friction management with focus on KPI's. Measurements and validation tools, test methods (laboratory and full scale), environment issues and maintenance strategies will also be collected from the different railways. EN 15427 will be used as guideline to structure this work.*

In October 30 experts from around the world contributed to our virtual ELGI test method working group (TMWG) meeting this autumn. In a sense the Covid-19 travel ban has pushed us into the 21<sup>st</sup> century! This extremely active group is constantly analysing and improving the huge range of grease test methods to make us fit for the future.

New and ongoing projects included feedback from ASTM on copper corrosion: can we find a reliable sensor to rate the colour change? The use of PDSC and Rapidoxy tests for oxidation stability as well as precision of four ball testing, and the reasons why it might be poor, were discussed too. Activities with ISO are also intense, hopefully leading to more reliable standards for roll stability, grease noise and grease life testing.

Then there's rheology. Viscoelastic properties for consistency and behaviour in lubricating systems is one focus. Finally tackiness, an example of extensional rheology which is more complicated than many realise. We are close to developing a reliable method.