

2014 ELGI AGM Best Paper Award

The ELGI Best Paper Award committee is pleased to announce that this year's award for the best paper in joint first place will be presented to George Dodos (Eldon's- Greece).

All the presentations were evaluated on several criteria that covered both the content of the paper and the quality of the presentation.

On behalf of this committee and the ELGI board I would like congratulate George in recognition of his work for this well-deserved achievement.

Mehdi Najafi- Fathi
BPA Committee Chair



George Dodos
Eldon's Greece

Dr. George Dodos has a Diploma and a PhD degree in Chemical Engineering from the National Technical University of Athens in Greece. He is working with ELDON'S S.A., involved mainly in research and development of new innovative products and in technical services. He also holds a Research Associate position in the Laboratory of Fuel Technology and Lubricants in the National Technical University of Athens with his research activities currently being focused in the field of biobased fuels and lubricants. He has several publications in international peer-reviewed journals and conference proceedings on topics such as oxidation stability, tribological behaviour and microbial contamination of lubricants and fuels. He is affiliated to a number of international organizations including ELGI, SAE and ACS. From 2013 he co-chairs the ELGI Biobased Greases WG. g.dodos@eldons.gr

A New Approach for Measuring Oxidation Stability of Lubricating Greases

For many years ASTM D 942 (oxidation pressure vessel/bomb) has been the dominant standard method for determining oxidation characteristics of lubricating greases. Although it has served the industry for a long time, nowadays is considered a time consuming method with little or no potential for customization. A methodology that employs a PDSC unit has been also standardized (ASTM D 5483) - especially for high temperature application greases - and gradually gained attention by the industry. It is a modern and sophisticated method, but still it encounters difficulties to prevail due to cost and staff limitations. Based on the above, in this study a Rapid Small Scale Oxidation Test (RSSOT) apparatus was utilized in order to discover whether it could be applicable in measuring the oxidation stability of lubricating greases. The actual test has been initially introduced to facilitate oxidation stability determinations of fuels and biofuels, however it can easily be set up to measure lubricants and greases. The sample is placed in a heating compartment which is then charged with oxygen. Oxidation induction time is given as a function of pressure drop (either absolute or percentage). It is a fully automated method, while temperature, pressure and test time can easily be customized. Several types of lubricating greases have been tested in the RSSOT unit in various conditions, and some of the results have been compared with conventional tests. Besides, it seems that this method might be more easily adapted in the case of biobased lubricating greases.