



"understanding friction, lubrication and wear"

SAIT Newsletter - March 2018

TRIBOLOGY suffers under a strong perception that lubricants are the dominant factor – nothing could be further from the truth. A 'Google Search' for tribology pdf books provides 403,000 results in 0,53 seconds and reveals the vast library of tribology intellectual capital tied into materials other than oil and lubrication.

ETT – Essential Tribology Terminology

Simple definitions for three of tribology's essential terms

- ✓ **Copper Strip Corrosion** - A standard test method for measuring the corrosive effect of petroleum products on copper and its alloys. Also used as a method of indicating the amount of free or unreacted sulphur in a product.
- ✓ **Demulsibility** - The ability of an oil to separate from or shed emulsified water, as determined by a standard test method. Demulsibility is an important consideration in many lubrication systems.
- ✓ **Detergency** - That property of a lubricating oil which minimizes or prevents high temperature deposit formation or deposits resulting from acidic contamination of the oil.

SAIT TRAINING - Smooth the path to knowledge

2018 SAIT TRAINING CALENDAR DATES

- ✓ LE 114: 7 - 11 May 2018, Johannesburg
- ✓ LE 115: 21 - 25 May 2018, Durban
- ✓ LE 116: 23 - 27 July 2018, Johannesburg
- ✓ LE 117: 27 - 31 August 2018, Cape Town
- ✓ LE 118: 8 - 12 October 2018, Johannesburg

SAIT AGM - Tuesday 15 May at 18:00

Science Park, 1 Northway, Kelvin

Please note the date for the AGM and for Dr Leger's Leger's presentation is 15 May 2018.

Following the official business of the SAIT Annual General Meeting, Dr. Jean-Patrick Leger, CEO of the manufacturer of Vesconite, will be giving a presentation, "**Adventures in Wear: From Underground Gold Mines to Desert Railways to Ocean Floors**".

This occasion is open to all Tribologists - members of the SAIT, non-members, and their guests. Please RSVP to Gill, Isabel or Berice at 011 804-3710, secretary@sait.org.za or admin@sait.org.za to ensure seating and catering.



INTERNATIONAL EVENTS

Tuesday to Friday September 4 - 7, 2018 - 45th Leeds-Lyon Symposium on Tribology: Leeds Trinity University, Leeds, UK Please take the time to explore the symposium website Leeds-Lyon 2018 or go to <https://engineering.leeds.ac.uk/leeds-lyon-conference>. Registration via the Online Store will open on Monday 9 April 2018. For further enquiries please contact the Secretariat on: leeds-lyon@leeds.ac.uk

September 17-20, 2018 - Malaysia ASIATRIB 2018: the mega event in the series of International Tribology Conferences under the auspices of the Asian Tribology Council (ATC), the apex body of national tribology society of Asia Pacific countries. prospectus

at http://asiatrib2018.mytribos.org/PDF/ASIATRIB2018_prospectus.pdf

October 08-12, 2018 - 5th INTERNATIONAL CONFERENCE ON COMPETITIVE MATERIALS AND TECHNOLOGY PROCESSES: The conference will be held in one of the most beautiful natural environment of Central Europe at Miskolc-Lillafured (HUNGARY) in HOTEL PALOTA.



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Conference IC-CMTP5 is expected to be the largest and most important conference on materials science in Central and East Europe in 2018. More information, online registration and abstract submission are available in the conference website of www.ic-cmtp5.eu

DID YOU KNOW?

The Society of Tribologists & Lubrication Engineers (STLE) issue a bi-monthly scientific journal – TRIBOLOGY TRANSACTIONS?

This journal contains peer-reviewed experimental and theoretical technical papers on lubrication, friction and wear of materials from the macro- to the nano-scale. Tribology Transactions features more than 2,000 published papers of relevance to a wide variety of industries and is read and referenced by thought-leaders in the field of tribology in countries around the world.

STLE members have full online access to Tribology Transactions and can search the complete archives.

SAIT members are automatically STLE members with access to Tribology Transactions.

STLE has another, monthly, publication, TLT (Tribology & Lubrication Technology).

TRIBOLOGY & THE ENVIRONMENT

Less is more effective - mist lubrication or minimum quantity lubrication (MQL) proves this.

Apart from the urgency of climate change, current drought disaster conditions in South Africa means conserving every drop – cutting fluid takes many thousands litres of water where **MQL** is far more cost effective and conserves both water and lubricant.

The SAIT Tenth International Tribology Conference in 2011 dealt with this subject in an excellent case study and very relevant today. **Please contact the SAIT for a copy of ‘GREEN TRIBOLOGY’** Environmentally-Friendly Micro-dosing of Lubricants in Aluminium Metal-Working Operations – A Case in Point by Eben du Plessis

REPORT-BACK:

LE 113: 19 - 23 February 2018, Johannesburg

The first Lubrication Engineering Course of 2018 was held at Science Park in Johannesburg from 19 to 23 February.

Twenty-seven candidates attended and wrote the exam on the final day. Of the twenty-seven, 25 passed – well done!

Two candidates, Thomas le Roux and Kayrenza Thambaran, achieved distinctions – congratulations! Most of the candidates were South African, however three were from Khartoum in Sudan, one from Addis Ababa in Ethiopia, one from Harare in Zimbabwe and one from Mocambique.

The candidates enjoyed the course; here are some comments received from them:

The Course "really made me feel excited about all the topics! - I cannot wait to apply what I have learned!"

"The information is very valuable and will greatly help in engaging customers and to grow my understanding of Tribology. Thank You for a great course."



PARTING-SHOT – Seal Design – Tribology’s vital partner in successful applications.

There are seals that are designed to keep the dirt out and the lube in. Then there are other seals such as an engine valve stem seal that allows exactly a metered rate of engine oil to pass through to the engine valve guide / stem seal interface.

André Weyers – SKF South Africa’s Technology Areas Manager explains – “If too much oil passes through the lip of the seal emissions are worsened and coke builds up on the valve, potentially causing the engine to lose power or even fail. If too little oil passes through the lip of the seal, the valve does not receive enough lubrication and will scuff, ultimately causing the valve to seize. The ideal metering rate is between these two extremes.”

For more info on this important subject, please visit andre.weyers@skf.com and www.skf.co.za and also www.motioncontrol.co.za.