

SEALING MATERIAL DEVELOPMENT FOR CRITICAL INDUSTRIAL APPLICATIONS FORUM

16th – 17th May 2019 – Berlin, Germany

VENUE

STEIGENBERGER
HOTEL AM KANZLERAMT
BERLIN

FEATURED

- How to realistically tackle increasing customer demands?
- What kinds of failures are we seeing, and how to prevent them?
- What are the limitations of common materials and how to adapt to new problems?
- What are the challenges and uncertainties seals face for future applications?

SPEAKER PANEL

Mattia Ramini
R&D Manager
Italian Gasket

Italian Gasket SpA activates the process of energy management system ISO 50001 to reduce consumption and environmental impact, continuing in such a way the project of improvement in efficiency and environmental protection. Italian Gasket Spa has gotten numerous awards as the best supplier.

Ozan Devlen
Technology Director and Board Member of European Sealing Association
Kastas Sealing Technologies

Kastas Sealing Technologies is a leading manufacturer of hydraulic, pneumatic sealing elements and custom-made sealing solutions. Their wide range of piston seals, rod seals wipers guide rings static seals machined seals and o-rings are designed and developed for the needs of high quality demanding applications and equipment globally.

Luca Valentini
Professor, Civil and Environmental Engineering Department
University of Perugia

The Università degli Studi di Perugia, founded in 1308, is one of the oldest universities in Italy and one of the most accredited. The Civil and Environmental Engineering Department has been recognized recently as Department of Excellence by the Italian Ministry of Education, Universities and Research.

Travis Werner Hohenberger
PhD Researcher
Schlumberger And
Queen Mary University of London

Schlumberger is the world's leading provider of technology for reservoir characterization, drilling, production, and processing to the oil and gas industry.

Established in 1785, Queen Mary University of London is one of the UK's leading research universities, and has evolved into an international hub of education and research excellence.

Marcus Davidson
Drilling & Completion Fluids Specialist
Harlaw Fluids Ltd

With a background of technology and innovation going back over 25 years. Harlaw Fluids Ltd is focussed on building a reputation for providing high quality advice and services. Specialising in drilling and completion fluids with extensive experience in designing new products and systems for challenging applications.

Ray Clifford
Global Applications Engineering
Director
James Walker

Established in 1882, James Walker is a dynamic global manufacturing organisation that supplies a vast range of high performance fluid sealing products and associated knowledge-based services to virtually every sector of industry.

Bram Jongen
Head of R&D, PPS
DATWYLER Sealing Solutions

DATWYLER Sealing Solutions is a Swiss supplier for customer-specific sealing solutions with over 6,000 employees and 17 globally distributed production locations. It is the preferred partner of leading automotive supplier and pharmaceutical manufacturers.

Dr. Andreas Hausberger
Head of Research Group:
Polymer Tribology
Polymer Competence Center Leoben

The Polymer Competence Center Leoben (PCCL) has led collaborative research in polymer technology and polymer science in Austria for more than a decade. The hundred and more experts carry out R&D in diverse polymer applications, including automotive, aerospace, packaging and solar energy.

Nicola Ranieri
Customer Technical Development,
EMEA
Solvay Specialty Polymers

Solvay, a world leader in high performance polymers, offers an unmatched portfolio of Specialty Polymers with over 35 product lines available in more than 1500 formulations designed for use in demanding markets around the world. These high performance plastics, polymers, fluids and elastomers are designed to meet the property requirements of demanding industries.

MEDIA PARTNERS

08.30 Registration & Morning Coffee

09.00 Opening Address from the Chair

09.15 Why I am here? What are my challenges and expectations?

Take this time to think what your expectations from the conference are. Make sure to share them with the audience. Throughout the two days of conference we will make sure to address them.

Interactive Session for all participants

09.45 Improving the End-User's Grasp of Sealing Technology

- How to change the market's view of the seal from a cheap commodity to an integral part of the whole system?
- The importance of the customer understanding the need to explicitly detail all conditions that are pertinent to seal and material choice, and will influence performance.
- Introducing next generation material compounds, how will it affect the industry as we know it?

Ray Clifford
Global Applications Engineering Director
James Walker

10.30 Coffee & Networking Break

11.00 Analysing the Failure Mechanisms of Thermoplastic Polyurethanes in Sealing Contacts

- Model and component like testing
- Failure analysis (microscopy)
- Modelling and simulation
- Thermoplastic Polyurethanes (TPU)
- Friction and wear behaviour

Dr. Andreas Hausberger
Head of Research Group: Polymer Tribology
Polymer Competence Center Loeben

PANEL DISCUSSION

11.45 Obstacles of Testing and Validation

- Understanding the influence various factors on the system's performance
- The importance of clear communication between customer needs and the supplier
- Balancing investment and time required to properly validate a seal

12.30 Luncheon

SEALING IN EXTREME COLD

13.30 Determining Operating Limits of Elastomers in Low Temperature Applications and Solution Proposals

- International Standards on determining operating limits of Elastomers in Low Temperatures
- Novel test methodology to assess low temperature sealing capability of elastomers
- Low temperature sealing solution proposals in arctic environments
- Outlook of development for international standards for low temperature sealing

Ozan Devlen
Technology Director and
Board Member of European Sealing Association
Kastas Sealing Technologies

14.15 Requirements and Test methodologies for Seal Integrity testing of Pharmaceutical rubber seals

- Industry requirements on sterile drug product packaging and integrity evaluation
- Probabilistic and deterministic test methodologies for seal integrity evaluation
- He-leak as the most sensitive leak testing method
- Effect of cold storage on the seal integrity of drug products

Bram Jongen
Head of R&D, PPS
DATWYLER Sealing Solutions

15.00 Coffee & Networking Break

15.30 Addressing the Myth of Low Temperature Fluoroelastomers Sealing Possibilities

- Target: assessment of relative performance of elastomers with very low temperature flexibility (<-30°C)
- Modelling of what can happen during real service of elastomers (i.e. chemical/thermal ageing)
- Characterizations: DSC, Temperature of retraction, DMA, compression set
- Characterizations performed on original materials and after chemical/thermal ageing
- Focus is on fluoroelastomers "Tecnoflon VPL", benchmarked to VMQ, FVMQ, HNBR, AEM
- Short description of a real successful application of this study

Nicola Ranieri
Customer Technical Development, EMEA
Solvay Specialty Polymers

PANEL DISCUSSION

16.15 Economic Drivers and the Impact on Innovation

- What obstacles stand in the way of better sealing systems?
- High pressure, temperature and stress are not going to go away any time soon, is elastomer able to cope with the demands of the future?
- The cost of innovation – is there a cost-effective solution?

17.00 End of Day One – Closing word from the Chairman

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www.tbmgroupp.eu

MATERIAL PROCESSING AND PRACTICAL APPLICATION

08.45 Morning Coffee

09.00 Rubber Nanocomposites for Extreme Environments

- Application of elastomers in extreme environments
- Performance of elastomeric materials in high pressure and temperature environments
- Icing problems
- Definition of specific testing and validation activities
- Novel polymers and new and novel reinforcement systems
- Carbon nanotubes (CNTs) and graphene nanoplatelets (GNPs)

Luca Valentini
Professor, Civil and Environmental Engineering Department
University of Perugia

09.45 Process Control Philosophy during Injection Molding Of Rubber Compounds

- Rubber Compounds Characterization Incoming to Injection Molding Process.
- Dynamic Viscosity of Rubber Compounds From Shear Heating During Injection Molding Process
- Post-Cure Optimization on Critical Rubber Parts from Injection Molding Process.
- Failure Analysis On Rubber Parts From Injection Molding Process

Mattia Ramini
R&D Manager
Italian Gasket

10.30 Coffee Break

11.00 Drilling and Completion Fluids – Current and Future Challenges and their Impact on Sealing Materials

- A review of water-based and non-aqueous drilling fluid design and the relevance to sealing materials
- Compatibility of drilling fluid components with common sealing materials
- Exploring new drilling & completion fluid systems to meet future technical, environmental and economic challenges

Marcus Davidson
Drilling & Completion Fluids Specialist
Harlaw Fluids Ltd

PANEL DISCUSSION

11.45 Anticipating Environmental Regulations

- Has significant development in new offshore areas increased awareness of gaps in regulatory framework concerning environmental safety?
- What challenges do environmentally acceptable materials (such as lubricants) pose to the sealing industry?
- Is there a need for a better system to measure the consequences of material degradation?

12.30 Luncheon

FUTURE GROWTH AND DEVELOPMENT

13.30 The Challenges of Modelling Elastomeric Seals for Oilfield Applications

- Oilfield drilling and completions equipment, with emphasis on sealing devices
- Downhole operating environments (pressure, temperature, lifetime)
- Seal failures (leak, fracture, rapid gas decompression)
- Physical testing (cost, time)
- Simulation of oilfield rubbers (hyperelasticity, viscoelasticity, friction)

Travis Hohenberger
PhD Researcher
Schlumberger And Queen Mary University of London

PANEL DISCUSSION

14.15 Getting Ahead and Preparing for the Needs of the Future

- What is the future of sealing material technology?
- Bespoke solutions for proactive seal management
- Additive Manufacturing & its industry influence
- Long-lasting seals for dynamic applications

15.00 Coffee Break

15.15 Interactive Debrief Session

You will have a chance to share your major takeaways from the conference

15.30 Closing Word from Chair. Close of Conference.

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