

CONTACT:

O-Ring Prüflabor Richter GmbH

Kleinbottwarer Str. 1, 71723 Großbottwar

Tel: +49 7148 166 020 / Fax: +49 7148 166 02 299

www.o-ring-prueflabor.de

**O RING
PRÜFLABOR
RICHTER**

THE O-RING PRÜFLABOR RICHTER:

The O-Ring Prüflabor Richter specializes in services designed to ensure a safe use of elastomer seals and technical moldings and has been accredited according to DIN EN ISO/IEC 17025 since 2002. In addition to numerous services, we also offer the performance of failure analyses, which we have carried out on more than 2000 cases to date.

Our gained experience is shared in seminars, in-house seminars and consultations. Since the laboratory was founded in 1996, more than 2000 companies have already taken advantage of these services.

INSTRUCTOR DIPL-ING. BERNHARD RICHTER:

After studying mechanical engineering at the University of Stuttgart, Mr. Richter worked for over 12 years for a leading global O-ring manufacturer. During his last seven years he was head of applications technology before founding the O-Ring Prüflabor Richter in 1996. Ever since, he has passed on his knowledge in numerous seminars throughout the year.

**LECTURER DIPL-ING. TIMO RICHTER:**

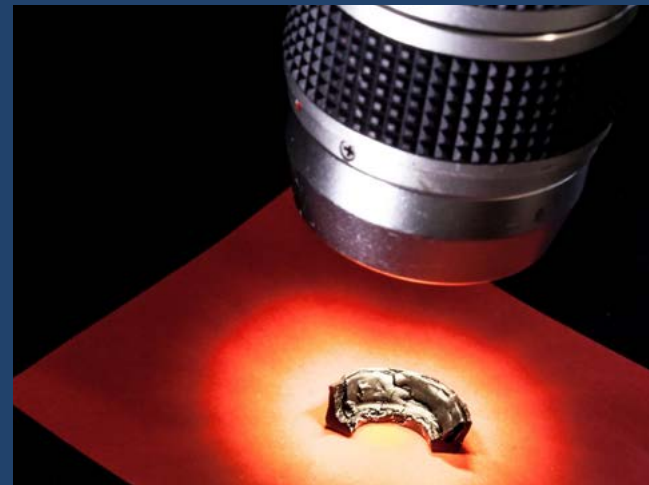
After studying mechanical engineering at KIT Karlsruhe, Mr. Timo Richter worked several years for a global manufacturer of technical elastomer products. His responsibilities included coordinating the cooperation between central process development, materials development and tool construction with several domestic and foreign production sites. Since January 2018 he has been in the O-Ring Prüflabor Richter.

INHOUSE SEMINARE:

We also offer individual designed seminars in English according to the needs of our customers. For more information feel free to contact us at info@o-ring-prueflabor.de.

Seminar

FAILURE ANALYSIS OF ELASTOMERIC SEALS



ABOUT THIS SEMINAR

To ensure reliable identification of the cause of a failure, it is important to identify the logic of the failure through all available information and a systematic analysis of the damage pattern. Therefore, the typical material analysis methods represent only one part of the seminar content. The main focus is on the interpretation of damage patterns which is illustrated by examples of more than one hundred damage cases.

REGISTRATION AND LOCATION:

Please contact us for further information. We offer seminars at our facility and at preferred locations of our customers.
Email: info@o-ring-prueflabor.de

DAY 1 – PROGRAM

09:30 AM INTRODUCTION

09:45 AM SEALING WITH ELASTOMERS: IMPORTANT PREREQUISITES

- Structure of technical elastomers of use
- Important influencing factors on the sealing process
- Design requirements
- Recipe and production-related influences

11:00 AM DAMAGE MECHANISMS

- Integral approach: required information
- Damage mechanisms, damage characteristics, damage frequency
- The ten most frequent individual causes of failures
- Presentation of all-important analytical test methods

12:45 AM LUNCH BREAK

02:00 PM MANUFACTURING DEFECTS WITH EXAMPLES OF DAMAGE (T.RICHTER)

- Typical manufacturing, machining and control processes
- Limits for shape and surface deviations
- Possible causes of crack formation and their detection

03:15 PM COFFEE BREAK

03:30 PM INADMISSIBLE IMPACT OF MEDIUMS WITH EXAMPLES OF DAMAGE

- The most common causes
- Impermissible chemical exposure
- Examples of incompatibilities
- Not permitted swelling
- FFKM elastomers and other materials for corrosive mediums

05:00 PM DISCUSSIONS (end approx. 05:15 PM)

07:00 PM EXCHANGE OF EXPERIENCES IN A CASUAL SETTING

DAY 2 – PROGRAM

08:30 AM RESISTANCE EXAMINATIONS

- Selection based on technical literature
- Practical exercises, examples

09:00 AM EXTREME TEMPERATURES, AGING AND OZONE WITH DAMAGE EXAMPLES

- The most common causes
- Types of aging, overheating, exposure to rubber poisons and ozone
- Types of thermal overloading, material-related damage characteristics
- Loss of plasticizers
- Undercure

10:15 AM COFFEE BREAK

10:30 AM MECHANICAL / PHYSICAL IMPACTS WITH DAMAGE EXAMPLES

- Seals in main force closure
- Incorrect installation spaces and installation damage
- Gap extrusion
- Explosive decompression and explosive evaporation
- Abrasion and spiral defects
- The blow by effect; causes for the „sweating“ of hydraulic seals
- The diesel effect, consequences of air in hydraulic oil

12:45 AM LUNCH BREAK

02:00 PM PRACTICAL EXERCISES

- Handouts of damage patterns
- Classification of the damage mechanism with the help of the training materials
- Discussion and evaluation of the results
- Case studies from the auditorium

03:15 PM FINAL DISCUSSION (end approx. 03:30 PM)