

WORLD CLASS REFRACTORY MANAGEMENT WORKSHOP

30/31 OCTOBER 2024



YOUR FACILITATOR:

Manfred Rösch
Managing Director (Dipl.Ing (FH))



Event details:

Cost: R8000 per person
(Includes - lunch, coffee and tea)

Venue: aha Kopanong Hotel
& Conference Centre
(Accommodation is available at the venue.
Please make your own arrangements.)

Interested?

Please contact:

Joey Snyders - jsnyders@refraline.com
Jacques Krog - 082 303 3634
jkrog@refraline.com

ACCREDITATIONS

Head of Engineering and Design, Refraline (Pty) Ltd, RSA
Director, Refraline Natal (Pty) Ltd, RSA
Director, DCE Corrosion Engineering (Pty) Ltd, RSA
Director, Refraline International Ltd, Mauritius
Director Refraline Colombia, Colombia
Director Refraline Malaysia Sdn BHD, Malaysia
Member of the (IRE) Institute of Refractory Engineers
Member of the (VDI) Verein Deutscher Ingenieure
(Association of German Engineers)

CAPITALISE ON THE EXPERT KNOWLEDGE TO GAIN MAXIMUM VALUE ON THESE VITAL ISSUES:

Explore the various material classification and applications in order to achieve better results

Gain an understanding of the fundamentals in lining design principals and material selection

Discover the optimum refractory outcomes through effective refractory products evaluation

Understand the best practice in refractory installations with proven results

Execute a good overview of test methods and product specifications with appropriate procedures

Review the key factors affecting refractory cost and performance from a whole new perspective

Implement an effective management of refractory maintenance projects



WHY YOU SHOULD ATTEND:

Target industries would include:

- Oil and gas industries
- Refineries
- Power generation stations
- Chemical industries
- Cement industries
- Mining industries
- Pyro - metallurgy

TESTIMONIALS FROM MANFRED'S CURRENT AND PAST CLIENTS:

"It is good to see what improvements are possible when one gets the right people involved. Well done you made us look good in shortening the shutdown"

"The repair method you preposed was lasting longer than the original lining design. A big headache just went away"

"I am glad to have you in my team. The design works like a dream"

"The lining improvement program delivered on all objectives set. The experience and new thinking really worked"

PARTICIPENTS WILL RECEIVE:

Workshop Overview

Copies of course materials

Copies of case studies

(Quality Control) QC templates

A comprehensive overview of refractory lining installations, covering all aspects from basic refractory knowledge to lining improvements and reducing the total cost of ownership of linings. Refractory linings are integral components of many industrial plants but are often overlooked. The course will make participants aware of the risks and improvement potentials within their own plant environment.

The course will guide participants on a journey of improvements, shutdown planning, and better maintenance of refractory linings. Learn to ask the right questions to improve bottom-line results and achieve better plant availability.



DAY 1:

Overview Introduction and history of refractories:

- What are refractories?
- Where do we use refractories
- Development history of materials
- Purpose of linings
- Usage and producers of refractory materials

Embedding successful lining design within the refractory routines:

- Setting process and campaign parameters before starting the lining design
- Calculation of quantities and spares
- Heat flow calculations
- Expansion allowance calculations
- Installations consideration during the design phase
- Practical exercise: Participants will do their own lining design

Identifying the right anchoring and reinforcement from a whole new perspective:

- Metallic anchors design, materials and type
- Hex-mesh and expanded metal
- Ceramic anchor's purpose, materials and type
- How many anchors do we need to hold the lining

Understanding the refractory material classification for better material selection:

- Installation techniques
- Material applications
- Service temperature
- Type
- Shaped or Unshaped
- Bonding Type
- Chemical components
- Insulation / dense refractories
- Basicity

Establish effective refractory material selection with in-depth analysis process:

- What are the selection criteria
- Understanding the process before selecting the materials
- How to calculate the basicity of a slag and its importance in material selection
- Myths about refractory materials
- Material specifications versus material datasheets
- Testing methods
- Manufacturing and test certificates



DAY 2:

EXECUTING PROPER LINING MAINTENANCE AND REPAIR FOR BETTER LINING PERFORMANCE:

- Mastering the best practices in refractory installation techniques for sustainable results
 - Best refractory installation practice in monolithic and brick installations
 - Do's and Don'ts in installations
 - Installation techniques for shaped refractories
 - Installation equipment
 - Precast shop installations
 - Repair techniques of monolithic linings
 - Repair techniques of brick lining
 - Looking after your lining will benefit the process owner
 - Endless lining concept Unplanned shutdown
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- Relating the connection between heat-up, commission and de-commissioning
 - Understanding the reason why linings need curing

- Heat up procedures
- Separate curing versus on start-up curing
- Commissioning and de-commissioning

Evaluating refractory failure and constructing the perfect prevention plan:

- Knowing what your lining can handle and where it fails
- Analyse and understanding why refractories fail
- Failure mechanics
- Ignoring the signs before failure How do we prevent lining failure
- Evaluate when to plan a replacement lining

Case study:

Petrochemical plant South Africa: Refractory material selection was not suitable for operation.

The day 2 hands on workshop will cover every aspect of a refractory lining. Participants will be able to gain enough insight into the best refractory installation practice to make a difference in their own plant environment, be inspired about the potential savings in total cost of ownership of a refractory lining.

