

Certification Course

2018 course

Oil Analysis - level 2

In accordance with ISO 18436-4 , Category level 2

สอดคล้องและตรงตามมาตรฐาน ISO18436-4 ระดับ 2

Previous name of the course is "Oil Analysis I & II"

ชื่อเดิมของคอร์ส อบรมนี้คือ Oil Analysis I & II



ISO 18436-4

วัน และ สถานที่อบรม ปี 2561

หลักสูตรอบรม 4 วัน

- 20 - 23 มีนาคม 2561
- 11 - 14 ธันวาคม 2561

ค่าอบรม 23,800.- บาท/ท่าน + VAT 7%

(ค่าอบรมรวมถึง เอกสารประกอบการอบรมในรูปแบบ
เพิ่มเติมอย่างดี , อาหารกลางวัน และอาหารว่าง)

บรรยายภาษาไทย



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Language : Thai

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FOCUSLAB LTD
Tel : (662) 361 8600-3
Fax : (662) 361 8567

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A Step-by-Step for Reaching World-Class Reliability
ขั้นตอนในการเข้าถึงความน่าเชื่อถือระดับโลก

Who Should Attend?

- ▼ All Maintenance Professionals
- ▼ Predictive Maintenance Technicians
- ▼ Reliability Engineers
- ▼ Lubrication Engineers
- ▼ Equipment Operators
- ▼ Maintenance Managers
- ▼ Operations Managers
- ▼ Vibration Instrument Specialists

Industries That Will Benefit From This Courses:

- ▼ Power Generation
- ▼ Petro Chemical
- ▼ Pulp and Paper
- ▼ Primary Metals
- ▼ Process Manufacturing
- ▼ Automotive Manufacturing
- ▼ Transportation
- ▼ Earthmoving & Mining

If You Have Any Of The Following Machines, This Seminar Is A Must:

- ▼ Gas Turbines
- ▼ Steam Turbines
- ▼ Gear Boxes
- ▼ Hydraulic Systems
- ▼ Compressors
- ▼ Diesel Engines
- ▼ Rolling Mills
- ▼ Process Pumps
- ▼ Final Drives
- ▼ Motor Bearings

Expand Your Oil Analysis Skills

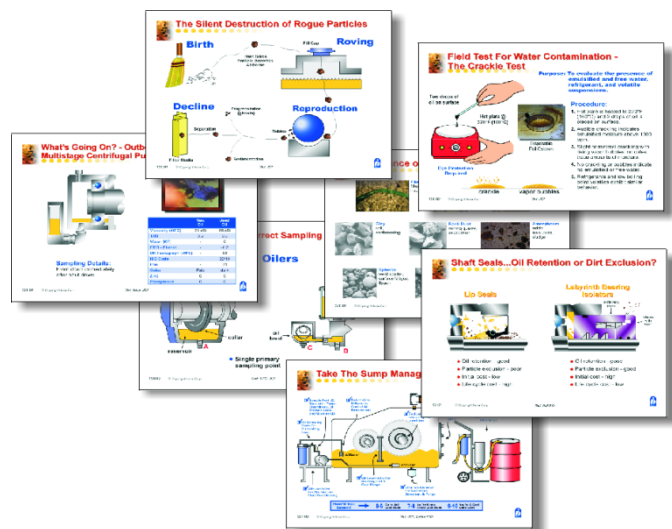
ขยายทักษะและความเข้าใจในการตรวจวิเคราะห์น้ำมันหล่อลื่น

If you're like many oil analysis users, you may already be finding your way around oil analysis. You may just be using it exclusively to predict catastrophic failures. Or, you may be basing your oil drains on the recommendations of your oil analysis lab. Either way, you probably know there's a lot about oil analysis you haven't mastered . . . and you might be wondering what you are missing out on.

Wouldn't you like to know **ALL** about what oil analysis can!

Presentation Slides are Full Color and High Quality, Making the Information Easy to Comprehend and Remember.

นำเสนอการบรรยาย โดยภาพสไลด์ที่เป็นสีสวย คุณภาพสูง ทำให้ความรู้ ข้อมูลต่างๆ ง่ายต่อความเข้าใจ และ จดจำ



“This seminar produced instantly usable knowledge which will definitely result in changes in the way we handle lubricants and lubricated systems.”

Joe Kelly, Maintenance Engineer, Akzo Nobel

“One of the most useful seminars I have ever attended. Not bogged down with theory, just the facts.”

Dave Roycraft, Maintenance Manager, Chrysler

Oil Analysis – Level 2

Course Outline

Oil Analysis Maintenance Strategies

- ▼ Fundamental aspect of Maintenance
- ▼ Fundamental of condition based maintenance (CBM)
- ▼ Predictive maintenance strategies
- ▼ Proactive maintenance strategies

Oil Sampling – level 2

- ▼ Objectives for lube oil sampling
- ▼ How to find the best sampling location
- ▼ Using primary and secondary sample point
- ▼ Oil sampling procedures
- ▼ Setting optimum oil sampling frequencies

Lubricant health monitoring, diagnostics – level 2

- ▼ Lubricant failure mechanisms
- ▼ Oxidative degradation
- ▼ Thermal degradation
- ▼ Additive depletion /degradation
- ▼ Setting optimum limits for viscosity trending
- ▼ Diagnosing over-limit viscosity results
- ▼ Diagnosing under-limit viscosity results
- ▼ Using Acid and Base Numbers
- ▼ Common TAN trends for different oil types
- ▼ Using FTIR for detecting common problems
- ▼ When and how to use the RPVOT (RBOT) test

Lubricant contamination measurement and control-level2

- ▼ Particle Contamination
- ▼ Moisture Contamination
- ▼ Glycol coolant contamination
- ▼ Soot contamination
- ▼ Fuel contamination
- ▼ Air contamination
- ▼ Setting target for oil cleanliness

Wear Debris Analysis and monitoring-level 2

- ▼ Test for wear element analysis
- ▼ Technologies used to analyze wear debris
- ▼ Spark emission and ICP spectrometers
- ▼ Measuring large particles with Rotrode Filter
- ▼ Understanding wear metal trends
- ▼ Setting optimum limits for wear metals
- ▼ Using machine metallurgy for diagnosis
- ▼ Potential sources of metals in oil
- ▼ Elemental analysis vs. ferrography
- ▼ Using wear particle diagnosis templates
- ▼ Creating a patch filtergram

How to Select Routine and Exception Test

- ▼ Selecting routine for diesel engines
- ▼ Selecting routine for turbo machinery
- ▼ Selecting routine for bearing, hydraulic, compressors
- ▼ Selecting Exception Test
- ▼ A quick method for selecting sample frequencies

How to Set Oil Analysis Target & Alarm Limits

- ▼ Four considerations when setting limits
- ▼ Proactive goal based limits
- ▼ Predictive rate-of-change limits
- ▼ Remaining useful life aging limits
- ▼ How to use statistical limits
- ▼ Calculating statistical rate-of-change limits
- ▼ Six common data interferences

How To Read Oil Analysis Report / Data Interpretation

- ▼ Keys Requirement Before you can read report
- ▼ Understand Oil Analysis Trend
- ▼ Interpret data to:
 - detect the use of the wrong lubricant
 - detect dispersancy failure
 - detect antioxidant depletion
 - Identify failure due to lubrication starvation

Field Inspection & Tests

- ▼ Simplify oil analysis using easy field tests
- ▼ Ten easy tests you can do without instruments
- ▼ Combining field test data with lab test data
- ▼ Partnering oil analysis with vibration analysis
- ▼ The use of oil analysis software
- ▼ The anatomy of an oil analysis report
- ▼ Case studies-try to figure out what's going on

Workshop – Interactive Case Studies Workshop

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บรรยายภาษาไทย

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แฟ้มอย่างดี . อาหารกลางวัน และอาหารว่าง)

Oil Analysis

In accordance with ISO 18436-4,II



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