



SEASON'S GREETINGS

2022 has been an exciting comeback after post-Covid global economic sluggishness – at WearCheck, we are proud to have recorded our busiest ever month of May in the 46-year history of our company, during which our laboratories successfully processed 72,188 samples.

Our team of expert trainers has continued to travel to all the corners of Africa to conduct sought-after customer training, and we are particularly proud of senior technical and training manager, Louis Peacock, who qualified as Africa's first CAT IV instructor when he passed his final exam with flying colours.

WearCheck's new lab in Kathu is flourishing, and our new office and laboratory site in Johannesburg has been welcomed by customers and staff.

I would like to thank our dedicated WearCheck team members as well as our valuable customers for working together to keep condition monitoring playing a valuable and essential role in industrial operations in Africa, Dubai and India.

FESTIVE SEASON OPENING HOURS

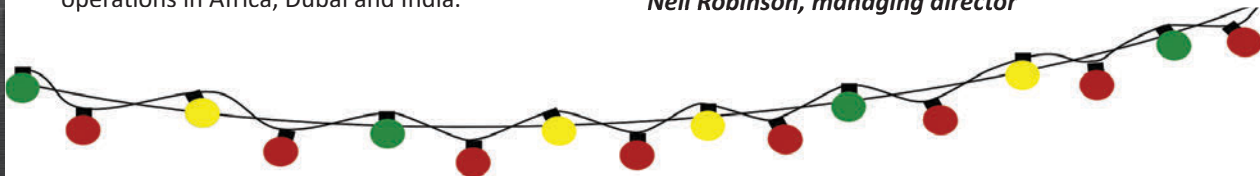


We have all sorts of exciting plans for progress in 2023 – watch this space!

We are committed to being available all year round, therefore we will remain open throughout the festive season. Staff in WearCheck laboratories in Cape Town, Johannesburg, Durban, Kathu and Middleburg will be available to receive samples throughout the upcoming holiday period.

We are poised for another busy and successful year in 2023 and look forward to partnering with you in the condition monitoring services sector.

Neil Robinson, managing director



MOBIUS MAGIC AND THE 1ST CAT IV INSTRUCTOR IN AFRICA



Louis Peacock (right) and Philip Schutte, WearCheck's ARC manager (left)

WearCheck is proud to announce that its Asset Reliability Care (ARC) division officially had Africa's first CAT IV instructor, after technical and training manager, Louis Peacock, passed his final exam with flying colours.

CAT certification is achieved through the Mobius Institute, a worldwide provider of education in

reliability improvement, condition monitoring and precision maintenance. WearCheck is one of a few certified Mobius training centres for Africa, and now the only centre having a local person presenting the CAT IV course.

The CAT courses include Vibration CAT I (junior analyst and data collector), Vibration CAT II (intermediate analyst and data collector), Vibration CAT III (senior analyst with supervisor roles) and Vibration CAT IV (expert analyst with additional roles and expert techniques).

For the stringent CAT IV certification, students must pass the exam with >70% and work through 52 hours of on-line videos during part one. Part two entails 40 hours of classroom-based instructor-led coursework and students must have the required number of years' condition monitoring experience as per (ISO 18436-2), (ISO 18436-1, ISO/IEC 17024), (ISO 18436-3) certification.

MOBIUS MAGIC CONTINUED...



The CAT IV course covers:

1. Advanced signal processing
2. Cross channel measurements
3. Dynamics (mass/stiffness/damping, natural frequencies, modes)
4. Resonance testing (run-up/coast down tests, impact tests, ODS, modal analysis)
5. Corrective action (flow control, resonance correction, isolation, and damping)
6. Proximity probe and casing measurements
7. Orbit and centreline plot analysis
8. Rotor dynamics (natural frequencies, modelling)
9. Journal bearings (design, fluid film instabilities)
10. Flexible rotor balancing
11. Torsional vibration

Peacock, who aced the course with an 80 – 90% pass rate, had this to say, 'I relished the challenges presented by the comprehensive course material, and I'm pleased that all the extra hours of hard work have paid off. One thing is for sure - the CAT-IV course transforms a very good vibration analyst into a vibration super-hero!'

Peacock's high marks earned him a distinction, which enables him to register as the first CAT IV instructor in Africa.

There are only eight other CAT IV analysts in Africa, but Peacock is the first instructor. On a global level, there are only 249 CAT IV

analysts, broken down as follows: Africa (9), Asia (55), Australia (29), South America (13), North America (25), Europe (93) and Middle East (25).

Following Peacock's lead, several additional WearCheck ARC technicians achieved other CAT certification in 2021/2022: CAT I (12), CAT II (8) and CAT III (2).

The next scheduled in-class CAT IV courses to be run by WearCheck take place from 23-27 January 2023 and 24-28 July 2023. The first 10 students enrolling for the January course, will undergo the following:

- Part one: 90 hours of video
- 48 additional workshop preparation hours at the Longmeadow Training Centre.
- 45 hours compulsory in-class training and five hours' certification.

To book a Mobius course with WearCheck, contact Louis Peacock to book your spot via email: louis@wearcheckrs.com or check out the available dates and courses here <https://www.wearcheck.co.za/training/mobius-training.html>

WEARCHECK KEEPS THE LIGHTS ON!



Lab manager, Meshach Govender (left) and managing director, Neil Robinson (right), give the thumbs up to having alternative energy available, ensuring our services can continue running amidst the aggressive load-shedding schedule.

WEARCHECK AT WINDABA



Windaba is all about wind power spearheading the energy transition for accelerated growth. In October WearCheck was there to showcase how condition monitoring can add value to a renewable energy operation by reducing the risk of unexpected failure.

QUALITY COUNTS AT WEARCHECK

November was World Quality Month – an annual celebration embraced by WearCheck with open arms, as it reinforces the team’s fundamental goal – the provision of world-class quality services.

WearCheck’s quality administrator, Prinda Narasi, is behind the company’s ongoing commitment to achieving and upholding major quality goals. ‘At WearCheck, we take continuous quality improvement (CQI) very seriously. Our services are regularly audited by a range of agencies, including SANS (South African National Standards) and the SABS (South African Bureau of Standards).’

WearCheck is currently the only company on the African continent that has earned multiple quality confirmation certificates, which include ISO 9001: 2015 and ISO 14001:2015 certification, and ISO/IEC 17025:2017 accreditation. These are audited regularly, and the company has never yet failed to have an accreditation or certification renewed.

Peace of mind

Says Prinda, ‘We are proud of our relentless dedication to top quality service – it gives our customers peace of mind, knowing that the laboratory results and analytics provided by WearCheck are scientifically accurate and would be replicated identically in any certified laboratory, anywhere in the world.’

ISO 14001 recognises international standards implemented by companies to manage their environmental responsibilities, which is very important to WearCheck in line with the company’s earth-friendly work ethic. WearCheck was first awarded ISO 14001 certification in January 2005.

ISO 9001 was first awarded to WearCheck in 1996, and recognises the integrated design, development and provision of condition monitoring services to international standards.

ISO/IEC 17025 is the international standard that sets out the general requirements for the competent, impartial, and consistent operation of laboratories. WearCheck first earned



this accreditation in 2012 for its laboratory, and Set Point Water Laboratories, a division of WearCheck has also earned this certification.

Benefits for our customers

The ISO 9001:2015 standard is recognised worldwide. Some customers insist on only using certified companies because they know that management systems are constantly assessed and improved.

Further advantages include improved quality and service, delivery on time, right first time approach, minimised incidence of mistakes, improved reporting and communications, better quality products and services, more reliable production scheduling and delivery, and the fact that standards are maintained by annual assessments.

The ISO system promotes an efficient management process and is a mandatory prerequisite to tender for some public sector work. Coupled with the positive message that certification presents to both customers and staff, the system also reduces costs by highlighting time-saving procedures.

WEARCHECK JHB RELOCATES

WearCheck recently relocated its Johannesburg laboratory, WSL (WearCheck specialist laboratory) as well as its dedicated divisions - asset reliability care (ARC), transformer oil testing, water analysis and lubricant-enabled reliability (LER) services - to a convenient new location in Edenvale.

The new laboratory is up and running smoothly, and customers are invited to drop off samples for analysis at the new location.

‘With all our services under one roof, WearCheck Johannesburg is truly a one-stop solutions hub for customers who make use of more than one of our condition monitoring programmes.

WearCheck JHBs are now at 55 Angus Crescent, Longmeadow Business Estate extension 1. The telephone number remains the same.



TECHNICAL TIP: DETERGENT ADDITIVES - keeping your parts clean

BY STEVEN LUMLEY, TECHNICAL MANAGER

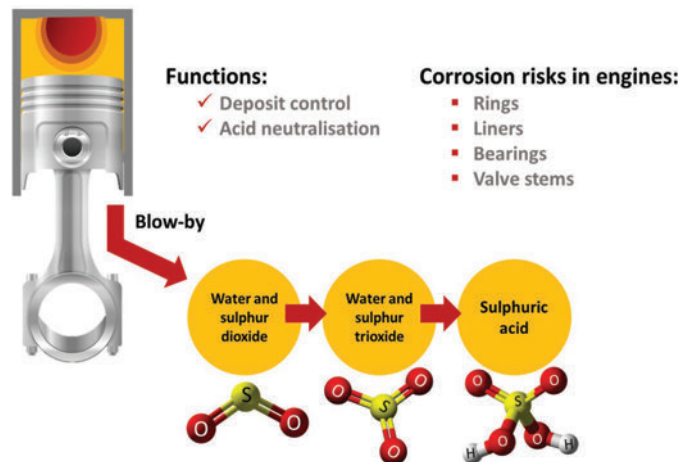
What are they?	Organo-metallic compounds of calcium and magnesium phenolates, phosphates and sulphonates
What do they do?	Keep surfaces free of deposits and neutralise corrosive acids
How do they do it?	Chemical reaction with sludge and varnish precursors to neutralise them and keep them soluble

Detergents play an important behind-the-scenes role in our everyday lives – they remove stains from our clothes, clean our floors, wash our hair and yes, they even keep our engines clean. Detergents are essentially cleansing agents which combine with impurities to make them more soluble in a given medium. And for those budding etymologists out there, the word detergent is derived from the Latin verb detergere, which means to wipe off or cleanse.

Detergents in lubricants are cleaning agents that contain metals. They are primarily used in engine oils and are mostly alkaline or basic in nature. They work in the high temperature combat zone of the engine (rings, pistons, liners and valves) to keep surfaces free of deposits, especially at ring grooves. They also neutralise harmful acids generated by the combustion of fuel and provide rust protection.

The first engine oil detergents, (calcium carboxylate and phosphonate) were developed in the early 1940s and - by the 1950s - the engine oil market had exploded, with lubricants containing over-based sulphonates and salicylates. Interestingly enough, Calcium sulphonates still make up about 60% of total detergent consumption when it comes to finished engine lubricants.

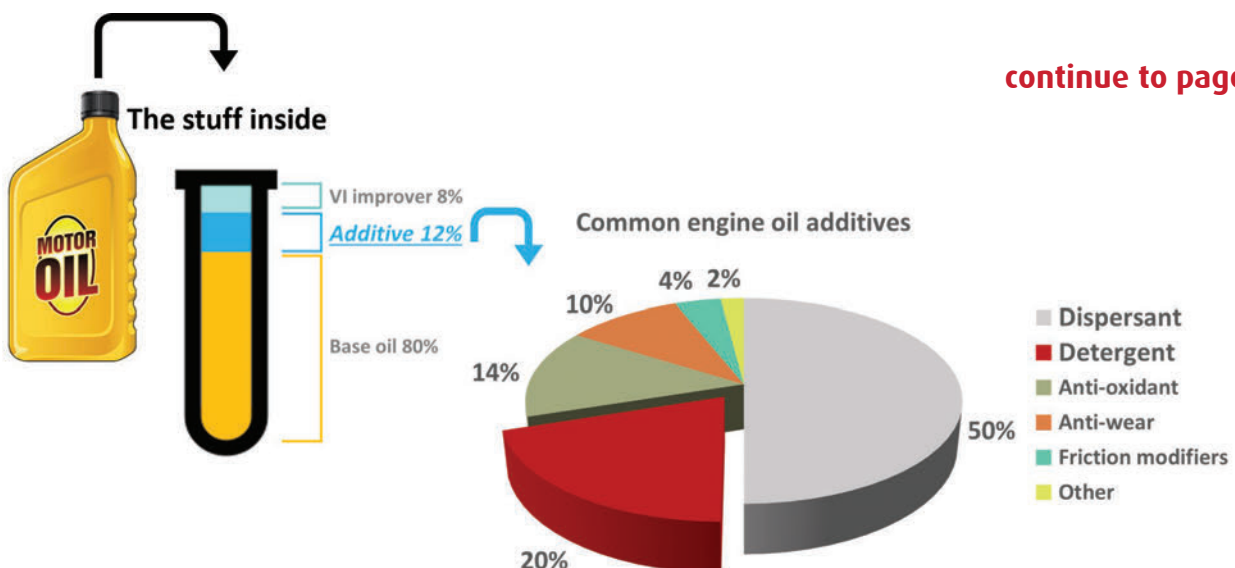
These cleaning agents are oil-soluble, organo-metallic compounds with polar heads, which allows them to cling to metal surfaces. Deposits and metal surfaces are both polar, and deposits are drawn to the metal surfaces and stick to them. The detergent additive, with its stronger charge, displaces these deposits from the metal surface.



Detergents have a similar structure to that of dispersant additives, with a polar head and a long, non-polar hydrophobic tail, but detergents contain a metal salt on an acidic organic molecule in their polar head.

Detergents and dispersants are the power couple of the engine oil additive world, and, as such, their relationship is synergistic in nature - while detergents remove deposits, they also work together with dispersants to keep these deposits in suspension in the oil by preventing the formation of large polar aggregates from settling on metal surfaces.

The additive treat rate of an engine oil is dependent on several factors, like the performance specification (e.g., API - American Petroleum Institute, JACO - Japanese Automotive Standards Organisation etc), the engine manufacturer's approval, the type and viscosity of base oil, as well as the additive supplier, but - generally speaking - a fully formulated mineral engine oil would contain about 80% base oil, 8% VI (Viscosity Index) improver and round about 12% additive package. Of that 12%, detergent and dispersant additives make up between 55-70% so, it stands to reason that the chemistry of the total package and finished oil is greatly influenced by these two components and their interactions with each other.



continue to page 5...

The WearCheck family has grown with the recent acquisition of Set Point Water Laboratories. Incorporating these specialised water analysis skills into our business, means we can offer our clients diverse testing and analysis options. Visit our website for [more info](#).

Determining drinking water safety is essential

Access to safe drinking is a privilege not shared by many in Africa. Often, drinking water is contaminated - from damaged distribution systems, breakdowns at treatment facilities, rapid urbanisation and water pollution - meaning many in South Africa are obliged to turn to groundwater.

Naturally available ground and surface water are invaluable sources of water that, when being utilised, should be closely monitored. The South African Bureau of Standards (SABS) and National Water Act published SANS241: Drinking Water Quality, outlining the minimum requirements for safe drinking water.

SANS241 sets out the minimum requirements for potable water to be considered safe for human consumption, covering physical quality, chemical components, heavy metals, organics and microbiology. Additional determinants for nearby pollutant influences must be added to SANS241. For instance; where there is nearby agriculture, checking for fertiliser contamination should be included.

While annual testing of SANS241 determinands is followed by water providers, monitoring programmes are often lacking. Daily, weekly, and bi-weekly monitoring, based on the number of people serviced, is often overlooked by SANS241 standards.

Monitoring is an invaluable tool that signals environmental changes in the water table that can quickly occur due to seasonal changes, rainfall, drought, heavy industry, agriculture, natural disasters, and so much more. Responsible monitoring signals any changes in water quality before any harm to life occurs.



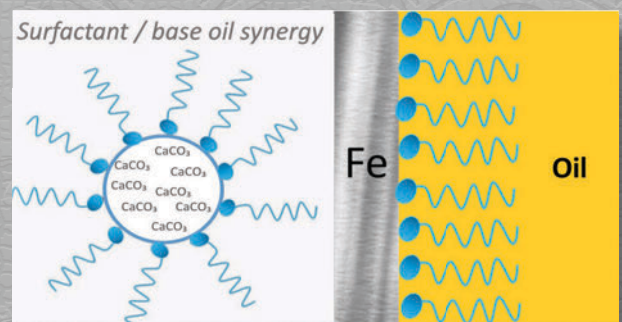
Technical tip continued...

Now for the nifty chemistry part - detergents are composed of two components, a surfactant and a colloidal inorganic phase. The combination of a surfactant molecule with a colloidal inorganic core results in a micellar-type structure.

This basic colloidal carbonate neutralises acids formed during the combustion process, such as nitric and sulfuric acid, which can lead to metal corrosion and wear, as well as organic acids, which can lead to polymerisation and oil thickening. The all-important Total Base Number (TBN) of the oil is an expression of this neutralisation ability.

The surfactant component of the detergent forms a protective layer on metal surfaces, resulting in the prevention of deposit build-up, rust and corrosion. The surfactant and the basic components work together to inhibit rust and corrosion, oil degradation, reduce high-temperature deposits and solubilise polar components.

One of the main driving forces behind new engine oil formulations is compatibility with exhaust aftertreatment systems, like DPFs (diesel particulate filters). To protect these systems, new-generation engine oils must contain lower SAPS (Sulphated Ash, Phosphorus and Sulphur) levels since SAPS can poison, deactivate or block these emission-control aftertreatment devices.



Due to their metallic nature, detergents in conventional engine oils are prone to producing residues and ash when burned in the engine, which, unfortunately, contributes to the SAPS level of the oil and can cause DPFs to block.

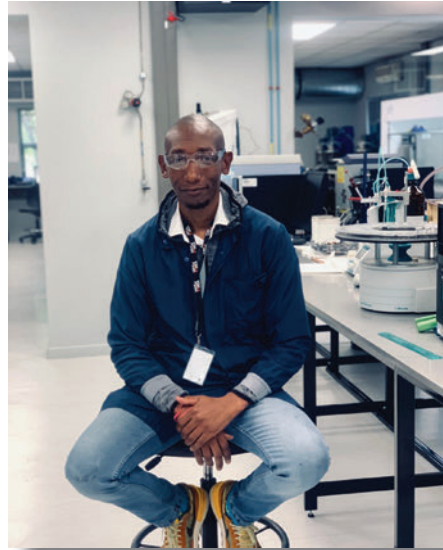
The move towards low-SAPS engine oils will result in a shift from traditional engine oil technologies to alternative chemistries, with more focus on ashless, metal-free detergent additive systems.

Be sure to look out for the next instalment of the lube series in the WearCheck *Monitor* newsletter, where we will take an in-depth look at the class of additives that protects your oil from ageing and degradation – antioxidants.

MAKING HEADWAY

PROMOTED

Congratulations to Vincent Sithole, who was recently promoted to the position of junior laboratory manager, making him responsible for managing both the Kathu and JOAL laboratories for WearCheck. Vincent joined the company in 2018 as a junior chemist, a position he has fulfilled in the Westville laboratory for the past four years.



WELCOME

A hearty welcome to Madelyn Coetzee and Darren Cohen Nadar, who recently joined the WearCheck family.



Darren Cohen Nadar has joined WearCheck as a DP Admin Clerk in Westville



Madelyn Coetzee has joined WearCheck as customer support assistant in Johannesburg

SPECIAL CELEBRATIONS



At WearCheck, we embrace and celebrate our diversity.



LONG SERVICE LAUDED

LONG SERVICE

Congratulations on your anniversary with the team! Thanks a ton for being an important part of our company's accomplishment – we rely on all the dedicated, long-serving members of the WearCheck family to deliver many more years of successful service.

These are the words of HR manager Michelle Padayachee, who praised several staff members for reaching notable milestones recently.



Anneline Chinsamy
DP Administration Clerk



Demeshree Gounder
Analytical Chemist



Thabani Dlamini
Accounts Assistant



Johan Reiners
Technical Sales Consultant

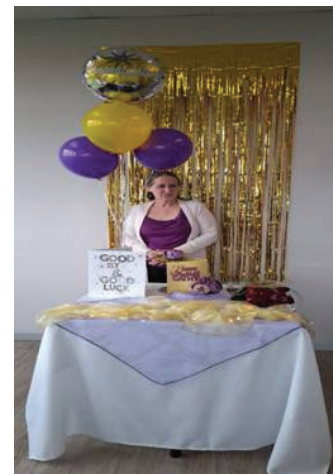
FAREWELL CATHY

We recently bid farewell to Cathy as she leaves us to go on retirement.

Cathy spent a very large portion of her career in the transformer field, and was the laboratory manager in our Durban transformer lab until last year, when she moved over to diagnostics. Cathy's experience is invaluable, so we do look forward to her popping in from time to time to offer any guidance.

We wish Cathy all of the very best with her future plans and are sure that this next chapter of her life will be an exciting one.

May you now get to enjoy the fruits of your years of service Cathy.



FAREWELL COWBOY

Cowboy Manana, who worked in WearCheck's SOS and JOAL labs, sadly passed away recently. Cowboy joined WearCheck in 1999, initially as a dispatch clerk before moving into the newly opened Caterpillar SOS lab in Isando. When that lab closed in 2013, he then moved to the JOAL lab, where he spent the remainder of his career. In October of 2020, Cowboy was unfortunately involved in an assault that left him with life-changing injuries. He finally succumbed to those injuries in October. Cowboy is survived by his wife, Susan, and their four sons.

The WearCheck team sends sincere condolences to Cowboy's family at this time of grief.

"Oh, the last goodbye's the hardest one to say, and this is where the cowboy rides away."

– George Strait, country singer.



OUT AND ABOUT

To get the best return on investment in a condition monitoring programme, it is advisable to ensure that all players in the process have received the correct training.

WearCheck offers a wide range of professional training courses for customers. Qualified trainers travel to present the courses on-site for specific customers, or public courses are delivered throughout the year, around Africa.

Recent training courses that were conducted include:



ZAMBIA



Boniface Yuwama of WearCheck Zambia conducted training for a team from BIA Group, agents for Komatsu in Zambia

ZIMBABWE



Shesby Chabaya of WearCheck Zimbabwe conducted training for a team from Masimba, Zimbabwe

SOUTH AFRICA



Technicians from Volvo recently underwent training with WearCheck training consultant, Jan Backer



WearCheck training consultant, Jan Backer (third from right, front row), conducted two-day training in Johannesburg recently

ELECTRA MINING

The WearCheck stand was popular with delegates



Manning WearCheck's stand at Electra Mining '22 are, (from left) Eddie Pieterse Jr, Juliane Strydom and Corné Dames

WE'RE ALL EARS...

A sincere thank you to everybody who completed our annual customer survey. Your feedback is invaluable to us and helps shape our business operations to ensure that we are giving our customers what is needed and expected – we do appreciate your opinions and input.

WearCheck sales developer, Kay Meyrick, shares some of the comments from our valued customers:

- Very happy with all services, keep doing like you did.
- You guys are doing an amazing job and its always a pleasure to deal with you.
- Would love a branch in Mississauga. Please register me for all your webinars, presentations and updates.
- Good and professional team providing equally excellent service.
- Very professional people. Always willing to help and to go the extra mile.
- Great service.
- Great work overall.
- Great job, keep it up.
- No comments needed – the service and staff are great, keep it up.



PRODUCT PICK: LUBRIGARD

As part of its ongoing innovation in the condition monitoring arena, WearCheck offers expert advice - through its Lubrigard division - on products that can go the extra mile towards keeping fuel clean and extending the condition monitoring programme. A selection of products is sold by Lubrigard. Here, we feature the vacuum dehydrator.

Simple operation

The units neither remove nor alter oil additives. The water and gas removal process is based on pure vacuum evaporation inside a vacuum chamber at a maximum temperature of 60 °C. Solid particle removal is achieved through a well-proven RMF micro filter. The units do not require continuous attention whilst operating, once connected properly and commissioned, oil purification is a semi-automatic process.

PLC controlled

The desired oil temperature can be selected on a thermostat, which is included in the integrated heater element. Oil supply and removal from the vacuum chamber is a fully automatic process, which is controlled by a programmable logic controller (PLC). The only manual action is the emptying of the pre-condenser and wastewater container (depending on the model). Overflow of the waste container or tank is protected through a float switch, which will shut down the dehydration unit once the maximum level is reached.

Plug and play

The RMF vacuum dehydration units can easily be connected to your system and can be used while the system is turned off or running. Just plug and play, get started and be amazed how fast water will be extracted.


To consult WearCheck's lubrication team, please reach out to Chris Hattings on sales@lubrigard.co.za

Vacuum Dehydration

The RMF Vacuum Dehydration units are designated oil purification units which can be applied directly to various types of machine reservoirs.

The units dehydrate and clean most types of oil such as lubricating, hydraulic, transformer and switch oils by removing particles, gasses, and water.

The purified oil satisfies the most stringent quality requirements, such as stated in the ISO 4406.



For more info contact

t: +27 11 392 6322
c: +27 83 625 0808
e: sales@lubrigard.co.za



UPSKILL YOUR WORKFORCE

The value of training

“Education is the movement from darkness to light”

Allan Bloom

The return on investment for training maintenance staff is extremely favourable – staff who know how to take samples correctly, interpret reports from diagnosticians and take swift maintenance action where necessary are key to boosting the efficiency of a condition monitoring programme.

WearCheck’s professional trainers run a selection of training courses across a range of condition monitoring and reliability solutions sectors. Many of these courses attract sought-after CPD (continuing professional development) points for delegates.

Customer training courses run by WearCheck, and the duration:

Course	Days
Precision Shaft Alignment	2, incl. practical
Precision Balancing	2
Vibration Analysis ISO CAT I	4, incl. exam
Vibration Analysis ISO CAT II	5, incl. exam
Vibration Analysis ISO CAT III	5, incl. exam
Asset Reliability Practitioner- advocate (ARP-A)	3, incl. exam
Asset Reliability Practitioner- engineer (ARP-E)	5, incl. exam
Asset Reliability Practitioner- leader (ARP-L)	5, incl. exam
Oil Analysis 1	2
Oil Analysis 2	1
WearCheck Practical (English / Zulu)	½
WearCheck Customised	2

Oil Analysis & Wind Turbine courses

Courses offered onsite and online.



	Oil Analysis 1: Understanding oil and its analysis (2 CPD points)	Oil Analysis 2: Report interpretation (1 CPD point)
Location	Two day workshop	One day workshop
Windhoek	February 7,8	February 10
Johannesburg	February 14,15	February 16
Richards Bay	March 7,8	March 9
Springbok	March 14, 15	March 16
Middelburg	April 18,19	April 20
Kimberley	May 9,10	May 11
Steelpoort	May 16,17	May 18
Kathu	June 6,7	June 8
Cape Town	June 20,21	June 22
Bloemfontein	July 18,19	July 20
Durban	August 15, 16	August 17
Rustenburg	August 22, 23	August 24
Johannesburg	September 12, 13	September 14
Kathu	October 17, 18	October 19
Nelspruit	November 14,15	November 16

	Wind Turbine Oil Analysis : 2 day workshop
Location:	Two day workshop
Cape Town	November 8-9

All the public courses listed in the WearCheck training schedule can be presented at the customer’s site of preference in South Africa or abroad.

We have the pleasure of offering customised training content to suit your requirements, your dates and your location. Customised training on offer includes sampling of lubricating and transformer oils, lubricant storage and handling, introduction to oils and concise oil analysis for workshop technicians.

WearCheck offers other on-site courses on request:

- WearCheck Practical (in English or Zulu) (half day)
- WearCheck Customised – oil analysis for workshop technicians

For more details on course content and prices, click here:

<https://www.wearcheck.co.za/training.html>.

To book the above courses, please contact Michelle van Dyk on training@wearcheck.co.za or call +27 31 700 5460 or +27 82 381 3321



Public / Online Mobius courses*

Course	CPD points	Date 1	Date 2	Date 3
Vibration Analysis – CAT 1	4	16-20 Jan	15-19 May	11-15 Sep
Vibration Analysis – CAT 2	5	13-17 Feb	05-09 Jun	09-13 Oct
Vibration Analysis – CAT 3	5	13-17 Mar	10-14 Jul	13-17 Nov
Precision Maintenance - Balancing		17-18 Apr	14-15 Jul	04-05 Dec
Precision Maintenance - Alignment		19-21 Apr	16-18 Aug	06-08 Dec

CAT IV courses will take place 23-27 January and 24-28 July 2023.

WearCheck has been an accredited training partner for the internationally-acclaimed Mobius Institute since 2015, and all the Mobius courses can be attended online or in person. All Mobius courses are presented at various venues throughout Africa, and many of them have an online option.

For more information or to book a Mobius training course, please contact Louis Peacock on +27 71 680 2967 or louis@wearcheck.co.za.

Please note that Precision Balancing and Shaft Alignment courses can not be conducted online.

LUBE TIP

Varnish is the product of a chemical reaction within oil which leads to a new chemistry being created that is different from both the oil and its additives. Condition monitoring techniques can be used to assess the accumulation of varnish within oil and manage the detrimental effects that follow.

UPCOMING EXPOS

Mining Indaba: 6-9 February 2023

Enlit: 16- 18 May 2023



HIGHLIGHT YOUR SUCCESS

If oil analysis has helped prevent a major failure or saved your company money, we would like to feature this in *Monitor*. Our writer will contact you for the details and will write the article for your approval. Simply email marketing@wearcheck.co.za and we will contact you.

TECHNICAL BULLETIN TOPICS?

Is there a particular subject you would like to see featured in a *Technical Bulletin*? Simply email your suggestion to marketing@wearcheck.co.za. Before you do this, why not check out the more than 60 titles already available on the web site: www.wearcheck.co.za

Planet-friendly option

WearCheck no longer prints hard copies of our *Monitor* and *Technical Bulletin* publications. Should you wish to be included on our digital mailing list please scan the QR code or e-mail a subscribe request to: marketing@wearcheck.co.za.



Head Office KwaZulu-Natal

No. 4 The Terrace,
Westway Office Park,
Westville, KZN, 3610
PO Box 15108,
Westmead, KZN, 3608
t +27 31 700 5460
e support@wearcheck.co.za

Gauteng Office

55 Angus Crescent, Long
Meadow Business Estate ext.1
Edenvale, Gauteng, 1609
t +27 11 392 6322
e support@wearcheck.co.za



Condition Monitoring Specialists

www.wearcheck.co.za

South African Branches

Bloemfontein +27 51 101 0930
Eastern Cape +27 41 360 1535
Klerksdorp +27 83 281 6896
Middelburg/Witbank +27 13 246 2966
Northern Cape +27 66 474 8628
Rustenburg +27 83 938 1410
Western Cape +27 21 001 2100

International Branches

Botswana (Agent) +267 311 6829
DRC +260 977 622 287
Ghana (Tarkwa) +233 54 431 6512
Ghana (Kumasi) +233 54 229 8912
India +91 44 4557 5039
Mauritius +230 483 5660
Mozambique +258 857 92 7933
Namibia +264 81 129 6078
Pakistan (Agent) +92 32 3425 7278
UAE +971 6 740 1700
Uganda (Agent) +256 78 529 6994
Zambia +260 212 210 161
Zimbabwe +263 24 244 6369



Honeywell

SABS
ISO 9001

SABS
ISO 14001



Publications are welcome to reproduce articles or extracts from them providing they acknowledge WearCheck.