

WEARCHECK DURBAN TO THE RESCUE

If you thought doing business during lockdown was complicated, here's a story of incredible dedication, tenacity and companies reaching out to help each other in difficult circumstances...

In August 2020, WearCheck's UK-based sister company suffered a terrible laboratory fire in which many instruments were damaged beyond repair. In order to provide their customers with continuity of service, WearCheck UK urgently needed help with processing a large volume of gas engine, engine and marine samples.

After careful consideration, they chose to enlist the help of WearCheck's Durban laboratory in South Africa, even though other branches of WearCheck in Europe were much closer and logistically more accessible.

So, on top of their normal workload, the hardworking team in WearCheck's Durban lab successfully processed an additional 13 000 samples from the UK during September and October 2020. They were ably assisted by the company's Johannesburg and Middelburg oil analysis laboratories. This during lockdown with strict shift work protocols in place, while simultaneously relocating the laboratory from Pinetown to Westville and also moving the transformer lab into the new Westville lab.

So just how did they pull this off?

Laboratory manager Meshach Govender takes up the story:

'We were honoured that WearCheck UK chose us to help them in their time of emergency. The specialist laboratory instruments they needed to replace take around 11 weeks to procure, calibrate and set up, so they really did need us to take up the slack while they got their own lab in order again.

'The challenges in this situation were getting the samples from the UK to SA during lockdown with limited flights and other Covid-related delays. The samples were dispatched weekly instead of daily, with our first batch of 2 500 samples arriving in early September.

'Our normal weekly workload is around 7000 samples, so this was a massive jump for us, but we took it in our stride! Having a team of very experienced laboratory staff, many with long years of service at WearCheck in SA was what enabled us to manage the extra workload in such trying times, as well as having the support of two of our other South African labs.

'We also employed additional laboratory staff to join our day-shift team, they were mentored by our experienced staff on dedicated workstations. We had to implement a 24/7 operation cycle to cope with the extra samples, so we created three shifts – day, night and midnight to keep the lab balanced and ensure normal turnaround time for our own customers was not disrupted in any way.

'It was quite unusual, as many people had very little work during lockdown, but our teams were working seven days a week!

'In order to analyse the extra samples, we looked at the efficiency of certain methods and new technology, and we even fast-tracked the R&D for a new instrument - a thermometric titrator for total base number- which we had luckily purchased just before lockdown. So we were able to give the UK customers exactly the same test results.

'To get the systems in place at first, we put in many extra hours in the lab – on some days we would work till 4am, go home, shower and change and be back in the lab at 8am!

CONTINUED ON PAGE 2...



WearCheck laboratories manager, Meshach Govender, is proud of his team in the company's Durban, Joburg and Middelburg labs who helped process an additional 13 000 samples for WearCheck UK during lockdown. He is pictured here in the Westville laboratory with the South African sample bottles (red lid) and the UK sample bottles

AVIATION PROGRAMME FLYING HIGH



Did you know that a dedicated aircraft testing programme is conducted by WearCheck, to reduce the risk of catastrophic engine failure, boost safety and reduce maintenance costs?

Our thriving aviation division analyses used aircraft oil and filters for wear particles, oil degradation and cleanliness of hydraulic fluids. The company's experienced aircraft diagnosticians provide expert insight into potential engine failure based on the test results.

WearCheck technical manager Steven Lumley has spent over ten years in the aviation monitoring team: 'We carry out oil and oil filter analysis on aircraft components such as piston engines, turboprop, turbofan and turboshaft engines, auxiliary power units (APU), helicopter rotor gearboxes and hydraulic systems,' she said.

'In the programme, wear rates are monitored, contamination such as dust, water and fuel in the oil is detected, and the type of oil in use is verified. The tests can also detect oil overheating and oil degradation.

The four main wear debris monitoring techniques used in WearCheck's laboratories are a spectrographic oil analysis programme (SOAP), oil filter debris analysis analytical ferrography - if no filter is available - and magnetic chip detector particle analysis. Oil filter analysis supplements spectrometric oil analysis as filters retain larger wear particles that are generated by abnormal wear.'

Why invest in a bespoke aircraft condition monitoring programme?

Says Steven, 'The financial and safety benefits of preventative oil filter analysis have been proven time and again. We have many case studies where serious incidents were avoided because the failing component was removed or repaired before disaster struck. In one case, a severely damaged bearing was removed from an accessory gearbox. Had the bearing failed, the result would have been an IFSD (in-flight shut-down).

'In another instance, the presence of a large amount of metallic debris prompted the replacement of the propeller gearbox. Subsequent boroscope inspection of the gearbox revealed severe ring wear.'

'Knowing that a component is compromised, and the extent of the damage enables the aircraft maintenance team to make critical decisions regarding replacement or repair - these actions save money by avoiding unplanned failure. Planned maintenance minimises the disruption to an aircraft's schedule.'

The company is also the only accredited laboratory for Honeywell turbine engines in Africa. US-based Honeywell is one of the

world's largest manufacturers of jet and turboprop engines. As this work is unique and specialised, Honeywell requires that WearCheck's diagnosticians are specifically trained and certified to diagnose their samples, and that they undergo regular assessment to earn re-certification.

Several diagnosticians recently completed Honeywell's stringent bi-annual accreditation exam - Steven Lumley, Ravi Chetty and consultant Daan Burger.

Some of WearCheck's aviation customers are SA Airlink, ExecuJet Maintenance, National Airways Corporation, CHC Helicopters, Orsmond Aviation, Safair and the South African Airforce 21, 22 and 44 Squadrons.

As well as performing condition monitoring in the aviation sector, WearCheck also provides monitoring, compliance and safety services across a broad range of industries, including marine, mining, electrical and power generation, earth moving, agriculture and more.



A photomicrograph of abnormal wear metal debris removed from the filter element of a turboprop engine reveals bearing wear platelets indicative of a bearing fatigue failure (100X). The severely damaged and failing bearing was removed from the accessory gearbox, avoiding further damage

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'Jumping over all sorts of hurdles to get the urgent samples processed included the flight delays due to lockdown and the fact that the UK sample bottles were a different shape to ours and having sufficient stocks of chemicals and our own bottles- but we made a plan and delivered the test results on time.

'Apart from our lab staff shouldering the extra load, it impacted other areas of the business too, such as our IT team, who had to fast-track the system to upload the results onto the UK platform - it was truly a team effort.

WearCheck SA MD Neil Robinson is extremely proud of his team for stepping up to the task so ably. 'We pride ourselves on being technically agile with a "can-do" attitude and a willingness to help, especially during the very trying lockdown times and moving laboratories. With many of the office staff working from home, we were allowed to have more lab staff on-site.

Furthermore, with the new laboratory in Westville being so much bigger, our capacity for more lab staff is higher. We had implemented Covid protocols even before

lockdown, so our teams were ready and able to knuckle down and get the job done - well done everyone!'

Dave Sharp, Operations manager, UK lab commented: 'Thank you so much to WearCheck South Africa. We don't know of any other laboratory that could have achieved this at such short notice. We appreciated the teamwork and support and willingness to help. The software support made our jobs easier as the results were produced in a format we could use.'

PRODUCT PICK: THE WEARCHECK RHEO-STICK

MEASURING VISCOSITY IS NOW AS EASY AS 1,2,3!

WearCheck has launched a quick, cost-effective viscosity test kit known as the WearCheck Rheo-stick.

It is important to know the viscosity (thickness) of a lubricant because this determines its film strength and its efficiency in preventing friction between moving parts. Thick oil has a high viscosity, and thin oil has a low viscosity.

The Rheo-stick got its name from the word “rheology”, which is a branch of physics that deals with the study of the deformation- and specifically the flow- of matter, such as lubricating oils.

The most important rheological property of a lubricant is its viscosity, or a fluid’s resistance to flow. Viscosity is a property of significance as it effects tribological qualities such as friction and wear between interacting metal surfaces.

If oil is too thick for the operating conditions, the machine is forced to work harder, thereby generating extra heat and using more energy. This results in unnecessary wear and tear on the components. The opposite is also true- if a lubricant is too thin, the film may not be thick enough to prevent friction. This also creates unnecessary wear and tear.

The Rheo-stick is a user-friendly visual viscosity comparator intended to monitor changes in the viscosity of lubricating oils. The Rheo-stick is suitable for oils with a viscosity range from 32cSt to 680cSt @40 degrees C.

Now, while the Rheo-stick is an effective on-site viscosity comparator, it does not measure the physical viscosity of the oil in centistokes and cannot give an indication of the chemical composition of the oil nor identify specific contaminants nor degradation by-products.

To perform the viscosity comparator test you require two clean 5ml syringes, the Rheo-stick, a sample of the used oil in question, a reference sample of new oil of the same brand/grade and finally a flat surface on which to work.

STEP 1:

Once you have taken your sample of used oil, allow sufficient time for the oil sample to cool down to approximate room temperature. It is essential that both the used oil sample and the unused oil sample are at the same temperature.

STEP 2:

When at room temperature, add 5ml of used oil to the used oil reservoir on the Rheo-stick by means of a clean 5ml syringe. Using new oil of the same brand/grade as the used oil, add 5ml to the fresh oil reservoir by means of a clean 5ml syringe. The reservoirs

must be filled with exactly 5ml of oil, therefore the use of syringes is highly recommended.

STEP 3:

Tilt the viscosity comparator until it rests on the angled base at the opposite end from the reservoirs and allow the oil to run down the channels. (See photograph). When the new oil reaches the mid-point on the scale, return the Rheo-stick to the horizontal.

Observe the point reached by the used oil.

If the used oil has not reached the scale, then the viscosity is higher than the new oil. A high viscosity could be attributed to oxidation or degradation due to extended oil drain intervals, high operating temperatures, presence of water, presence of other oxidation catalysts or the addition of an incorrect lubricant.

If the used oil has overrun the scale, then the viscosity is lower than the new oil. A low viscosity could be attributed to degradation of the viscosity index improver (VII) additive in the oil as a result of shear or due to the use of an incorrect lubricant during refilling and topping-up procedures or fuel dilution.

STEP 4:

After termination of the test, clean the equipment with a suitable degreasing solvent and dry thoroughly with the WearCheck laboratory tissues. Dispose of the waste tissues in accordance with regulatory disposal legislation practices.

To order a Rheo-stick kit, please email support@wearcheck.co.za or speak to your local WearCheck representative.

For more information or to view the video on how to use this tool, please visit www.wearcheck.co.za.



WearCheck’s new Rheo-stick viscosity test kit is a quick, cost-effective way to determine a lubricant’s resistance to flow. Here, a used oil sample is compared to an unused sample of the same oil type - the viscosity comparator is tilted until it rests on the angled base and the oil is allowed to run down the channels

MAKING HEADWAY



The WearCheck family is growing, incorporating new skill sets and a presence in new regions.

We welcome WearCheck East India sales and support, Panchu Gopal Singh, who brings with him more than 20 years’ experience in the lubricant analysis field in India.

His experience covers customer compliance and timely testing-related assignments, as well as B2B sales and marketing in the multi-national fuel sector.

Panchu’s commendable work ethic and dedication will stand him in good stead as he joins WearCheck India to manage operations in the Eastern part of this large market.

Panchu can be reached on telephone +91 9332251644 or email panchugopal.singh@wearcheck.co.in

Used oil samples can be delivered to 16-B, Kamakoti Nagar, Palli Karani, Chennai-600100

TECHNICAL TIP: THE LUBE SERIES

PART 2: VISCOSITY INDEX IMPROVERS - THE ADDITIVE WITH YOU THROUGH THICK AND THIN

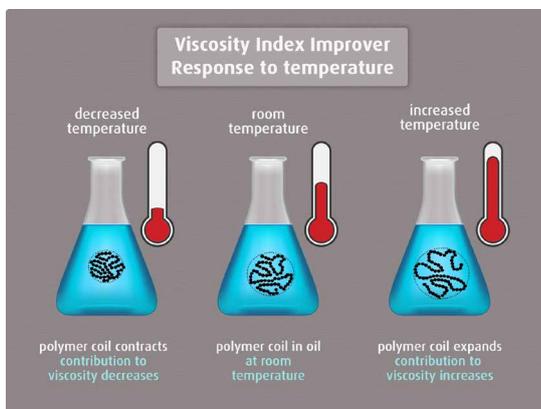
In this issue of Monitor and many future ones, we continue on a journey through the incredible world of lubricant additives detailing their function, how they work and their application.

Our journey begins with a look at a very special class of additives that is gaining importance as the technical demands placed on lubricants continue to grow at an ever-increasing rate – Viscosity Index Improvers (VIIs).

What are they?	Polymers and copolymers of methacrylates, butadiene olefins and alkylated styrenes.
What do they do?	Reduce the rate of viscosity change with temperature
How do they do it?	Polymers expand with increasing temperature to counteract oil thinning; and contract with decreasing temperature to counteract oil thickening.

VIIs are large polymer additives that partially prevent the oil from thinning out (losing viscosity) as operating temperatures increase. They are also responsible for better oil flow at low temperatures, resulting in reduced wear and improved fuel economy.

To visualise how a VII additive functions, think of the VII as an octopus that stays coiled up in a ball at low temperatures and has very little effect on the oil's viscosity.



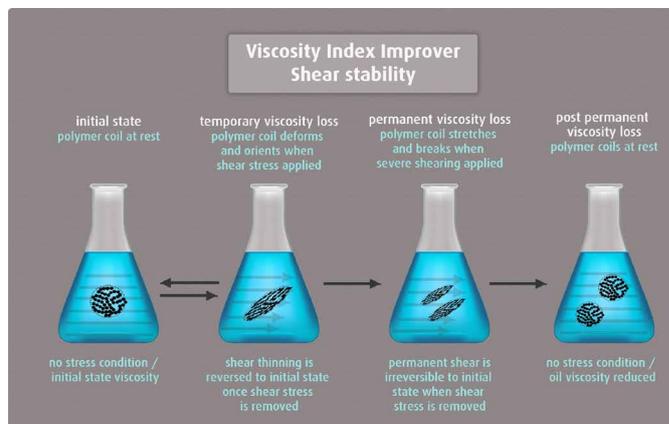
Then, as the temperature rises, the additive (or octopus) expands or extends its tentacles, making it larger, and preventing the oil from thinning out too much at high temperatures.

VIIs are used in multi-grade engine oils, automatic transmission fluids, power steering fluids, gear oils, and certain hydraulic fluids. By far, the most common application is for passenger cars and heavy-duty trucks in on-highway and off-highway applications. Over 80% of all VIIs sold in the lubricant market globally are used in these applications.

Unfortunately, VIIs do have a couple of negative attributes. The additives are large (high molecular weight) polymers, which makes them susceptible to being cleaved into small pieces due to shearing forces experienced in certain mechanical environments e.g., gears are notoriously hard on VII additives. Permanent shearing of the VI improver additive can cause significant viscosity losses.

A second type of viscosity loss occurs due to high shearing forces in the load zone of frictional surfaces e.g., in journal bearings. The VII loses its shape or uniform orientation and therefore loses some

of its thickening ability. When this happens, the viscosity of the oil temporarily drops within the load zone but rebounds to its normal viscosity after it leaves the load zone.



Higher molecular weight VIIs make better thickeners but tend to have less resistance to mechanical shear. Lower molecular weight VIIs are more shear-resistant, but do not improve viscosity as effectively at higher temperatures and, therefore, need be used in larger quantities.

There are several different types of VII additives but not all are equal. High-quality VIIs are less susceptible to permanent shear loss than low-cost, low-quality VIIs. It is for this reason that the polymer(s) selected is/are vital to the effectiveness of VII additive and over-all performance of the lubricant at varying operating temperatures. This is especially true of high-temperature high-shear (HTHS) applications.

Equipment tolerances, along with increased complexity and performance expectations create an environment of increased stress for the lubricant to operate in due to higher shear forces, higher operating temperatures, increased pressures etc. Selecting the optimal VII for use in these environments is increasingly important as formulators search for ways to minimise HTHS viscosity at higher temperatures to improve fuel economy.

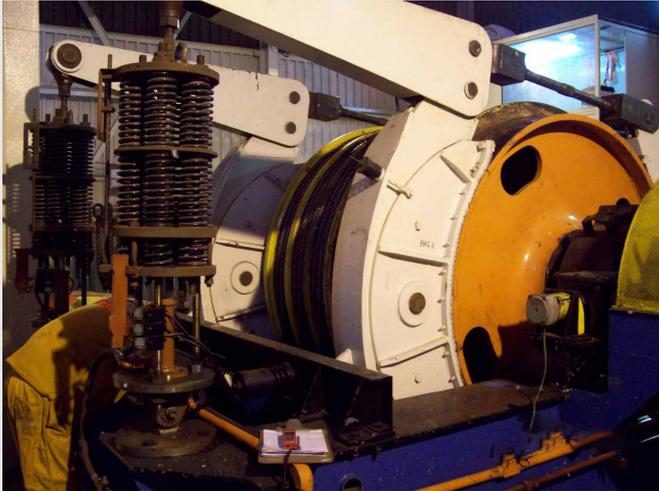
As equipment manufacturers continue to move to both low viscosity grades and lower (HTHS) lubricants, market demand for this additive is set to increase.

Be sure to look out for the next instalment of the lube series in the WearCheck Monitor, where we will introduce you to yet another incredible lubricant additive class – Pour Point Depressants.

By Steven Lumley, technical manager



ADVANCED FIELD SERVICES



This typical spring nest forms part of a winder and is required to undergo technical compliance testing every time the level one audit is scheduled, by highly-skilled and experienced inspectors to ensure that it is operating within the required safety regulations. After each audit, WearCheck prepares a report containing all findings and the previous three audit results to establish performance trends



Zero margin for error - one of the lights on a main circuit board indicates that there is a fault with the winder. The TC team will inspect the entire winder system to determine the cause of the fault, a report is generated, the maintenance crew repairs the fault and the winder is re-inspected by the TC team

WearCheck's advanced field services (AFS) division offers a wide range of specialist monitoring techniques which include rope testing, technical compliance (TC) and non-destructive testing. Here, we take a closer look at some of the different TC techniques.

The ultimate goal of the TC division is to ensure that all the components that they monitor comply with stringent, pre-determined safety standards. The TC team plays a supporting role to customer operations by reduction of risk using specialised and multidisciplinary services and resources, and they are on call at all hours.

The TC customers predominantly operate in the mining sector, but other industries are beginning to realise the value of TC, too.

The TC team's mining customers are generally the deep level mines – coal, gold, platinum etc – where vertical shafts (people movement), incline shafts (goods movement), ropes and many other components are tested.

The TC tests generally include level one winder and main fan compressor inspections, compliance level electrical inspections, headgear elevator electrical inspections, lock bell inspections, chairlift electrical inspections, secondary injection testing and conveyor belt compliances.

These components must undergo regular tests to ensure that they are constantly in a safe operating condition. Inspections are conducted using specialised testing equipment, highly skilled and experienced inspectors, and compliance to rigorous safety standards.

In South Africa, TC standards are legislated in many cases, but are also guided by industry-recognised best-practice values.

Johan Stols, WearCheck's TC manager, explains further, 'We add value for our clients by providing quality services, and identifying and mitigating risks associated with safety and production-critical equipment.

'WearCheck's TC team comprises six winder inspectors, who have around 140 years' combined experience between them. It is this team's responsibility to check that every component in a given machine is working exactly as it is supposed to work. For example, on a lighting circuit, all lights must be working perfectly. Or each safety circuit trips exactly when it is supposed to trip.

'If an error is found, this is reported to the engineer in charge of that particular component. Repairs are carried out by the engineer's maintenance team, and then the TC team comes back to retest the faulty component.

'In dynamic testing, which is applied to license winders, the law states that physical testing must be conducted within every 200 days in order to comply with safety standards.

'There are two levels of testing. Level one is where general electrical and mechanical audits are conducted. Level two involves designer audits on OEMs. In level one testing, even though there is no specific law that stipulates the frequency of testing for winders, industry best-practice dictates that they should be tested at least four times a year.

'During a typical TC audit, which is normally done during a weekly examination in which around 100 items are tested, the safety circuit is tested for correct operation. The different circuits on each unit must be tested to ensure correct operations. A report is compiled with all findings and includes the previous three audit results so that a trend can be established. Recent repairs done on the machine are highlighted.

'Tracking the compliance status of each component enables the engineer and the maintenance team to keep the component in peak operating condition and avoid nasty accidents or costly downtime.

'What is important to note, for example, is that each winder has its own unique operating and protection system, which must be adhered to when it is undergoing testing. We make sure that we are acquainted with each component and its maintenance and compliance history.

'Our TC team is standing by to assist in any way possible to ensure that all moving machinery is audited according to best practice, and that all required safety standards are met. Due to the production-critical nature of our support work, we are on call 24/7/365.'

by Johan Stols,
TC manager



OUT OF AFRICA

WearCheck extends footprint in East Africa

We expanded our condition monitoring operations further in Mozambique recently with the acquisition of CMMC, a condition monitoring company in Maputo.

WearCheck's existing Mozambican laboratory opened in 2013 in Tete province, Western Mozambique to service the region's precious stone and coal mining industries with the scientific analysis of used oil, fuel and coolant testing and other reliability solutions (RS) services.

The addition of CMMC to our East African presence will boost the availability of specialist condition monitoring techniques to mines and other industrial operations in Southern Mozambique as well as those in the Nelspruit area near the RSA border.

CMMC was launched in 2006, and currently carries out similar functions to WearCheck's RS division, including vibration, alignment, thermography and oil analysis.

WearCheck currently processes around 800 000 used oil samples per month in 14 laboratories across the African continent and beyond.

Managing director of WearCheck, Neil Robinson, is confident that industries in East Africa will benefit from the merger between the two companies, as the full range of condition monitoring techniques will now be available in the region.



These include transformer analysis and AFS-aligned services (Non-destructive Testing, Technical Compliance, Rope Condition Assessment) and other RS functions.

'We extend a heartfelt welcome to Louis Odendaal and his team of 10 analysts who now join the WearCheck family, and to all the CMMC customers – we look forward to helping you save money through a wide range of world-class condition monitoring services that boost the reliability and availability of machinery,' said Robinson.

'Furthermore, WearCheck Maputo is strategically situated to provide our customers in the greater Nelspruit area with added local expertise.'

Samples can be delivered to WearCheck Maputo, which is situated at Esquina da EN4 and Mozal Road, Talhão no. 11/15, Bairro Mussumbuluco, Municipio da Matola.

WearCheck Maputo can be contacted by phone on +258 843173781 or email louiso@wearcheck.co.mz.

Sweet Milestone

This year we celebrate a major milestone with our customer Zambia Sugar – they have been using WearCheck's condition monitoring services for 20 years.

The two decade relationship began initially with Zimbabwe's Tribology Services, which was later bought out by WearCheck in 2016 and renamed WearCheck Zimbabwe. Today Zambia Sugar is serviced by WearCheck's Kitwe laboratory, which is geographically nearer to the customer, whose head office is in Mazabuka, Southern Zambia.

Zambia Sugar- the largest sugar-manufacturing company in Zambia, with annual output of more than 351,050 tons of crystalline sugar each year- owns, operates and maintains Nakambala Sugar Estates, also located in Mazabuka.

WearCheck Zimbabwe's Operations HOD, Shesby Chabaya, has written two popular Technical Bulletins based on the company's many years of experience with condition monitoring in the agricultural sector, thanks to the services provided for Zambia Sugar.

You can click the links below to read the articles:
[Technical Bulletin 64: Maintenance savings sweeten the sugar industry](#)
[Technical Bulletin 69: Oil analysis exposes fleet operational challenges – agricultural industry.](#)

WearCheck Zimbabwe director, Bryan Tavener, who first signed Zambia Sugar up as a customer in 2001, has fond memories of how condition monitoring has been proven to save money and time for the customer again and again, over the years.

'We are honoured to serve Zambia Sugar for the past 20 years and look forward to providing condition monitoring services to them for many years to come,' says Bryan.



WearCheck and Zambia Sugar team members at Nakambala Sugar Estates back in 2004 meet to discuss how oil analysis can boost sugar production in the agricultural season

TEAM TALK

LONG SERVICE



Johan Stols is the technical compliance manager for WearCheck in the Advanced Field Services (AFS) division and has been with the company for 35 years.



Johan began his career at Anglo Field Services back in 1986 at Anglo Gold Ashanti and has worked for the company ever since, staying on when it was taken over by WearCheck in 2019. After beginning as an apprentice fitter and turner, he steadily worked his way up the ranks, serving as machinery inspector for several years before being appointed technical compliance manager in 2005.

Backed by three and a half decades of experience, Johan is now in charge of a team of six highly-skilled technical compliance inspectors, who are responsible for ensuring the stringent safety standards are met for a wide range of mining machinery.

Vigie takes the cake!



Laboratory supervisor Vigie Manikum has worked at WearCheck for 45 years. An impressive milestone! [Read more about Vigie...](#)



Reliable Golfing

Some members of WearCheck's Reliability Solutions (RS) team recently rallied together to play in a golf challenge in Pretoria against customer GP Consult. The stalwart WearCheck players conceded defeat, admitting that their RS skills far outstrip their skills when putting or teeing off!

Many of our players had to borrow clubs for this game but have since taken the challenge seriously and invested in a set of clubs of their own to be ready for the next GP Consult challenge later this year.



Seen relaxing after the game are (standing, left to right) Gustav Lourens, Francois van Eeden, Jason Koen, Pierre Van Vuuren and seated (from left) Edwin Engelbrecht, Edward Pieterse Snr, Edward Pieterse Jnr and Adriaan Schoonbee

Farewell, Deon...

Deon Yettian, WearCheck's stock controller, left the company recently to pursue a new career opportunity.

Deon was with WearCheck for more than 24 years, starting off in Durban and then moving up to Johannesburg.

HR manager Michelle Padayachee had this to say, 'A solid WearCheck family member, Deon always went above and beyond his role, taking on and owning additional tasks to ensure that the company continued to function smoothly and offering top quality products and services. 'Deon- your commitment and dedication to WearCheck will be sorely missed. We wish you the best of luck in your new career and new province, and we have every confidence that you will be successful.'

Deon Yettian worked at WearCheck for 24 years before leaving recently to pursue a new career



UPCOMING EXPOS

WearCheck will be participating in the following expos:

Windaba: 7- 8 October 2021

African Mining Indaba: 7 – 10 February 2022

CBM Conference: 5- 7 April 2022

African Utility Week/Enlit: 7- 9 June 2022

Electra Mining Africa: 5 – 9 September 2022

Lube tip: Watch out for road dust

Sources of solid contaminants in crankcase oils might include dirt and airborne dust, engine wear debris, rust, fuel soot and manufacturing or rebuild debris.

Road dust particles are typically harder than metallic wear particles and can cause far more abrasive damage and contact fatigue to interior machine surfaces than most other contaminants.

OUT & ABOUT

In spite of the global pandemic, our dedicated trainers have continued to provide technical customer training both online and in person around Africa.

SOUTH AFRICA



WearCheck training consultant Jan Backer (second from right) conducted oil analysis training for Glencore on-site at Rhovan mine in Rustenburg, South Africa.



South African staff from the Keller Group - a geotechnical specialist contractor and experts in piling, ground improvement, grouting, earth retention and monitoring - underwent oil analysis training with Jan Backer (pictured far right). They are seen here after completing practical sample training on one of their piling machines

GHANA



Daniel Boakye, sales/technical manager for WearCheck Ghana, conducted on-site oil analysis training with African Underground Mining Services at Newmont Ahafo mine in Ghana.

DRC

Mechanics and technicians from various departments of the Kibali Mining Services (KMS) underwent training at Kibali gold mine in the DRC, conducted by WearCheck Kibali laboratory manager Rene Tshapenda. The courses covered oil sampling, taking oil samples from fleet machinery, sample extraction, sample submission data, reports and the laboratory.



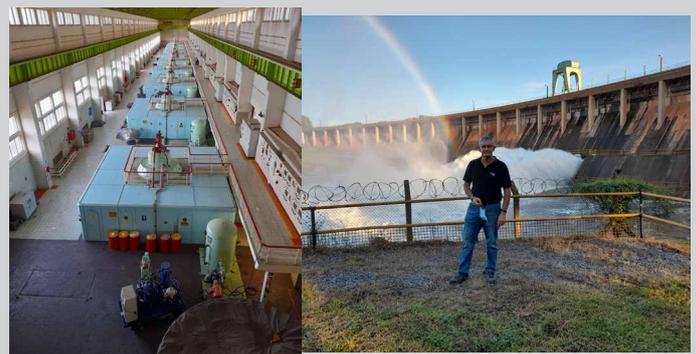
KMS workers are pictured during their three-day oil analysis training course in Kibali. WearCheck Kibali laboratory manager Rene Tshapenda conducted the training in the DRC.

UGANDA

Uganda was the destination for WearCheck consultant Daan Burger when he conducted a three-day course for 12 delegates at Eskom Uganda's training facility at Kiira power station in Jinja.

Kiira hydroelectric power station has an installed capacity of 200 megawatts and operates next to the Nalubaale Power Station at the point where the River Nile pours out of Lake Victoria. The Nalubaale Power Station has a generating capacity of 180 megawatts.

The custom-designed training course covered two days on turbine oils and turbine oil analysis and the third day dealt with transformer oils and their analysis.



Nalubaale Turbine hall at the Hydroelectric Power Station in Uganda can generate 180 megawatts of power

Daan Burger at Kiira power station

The value of training

“Education is the passport to the future, for tomorrow belongs to those who prepare for it today.

Malcolm X

WearCheck runs a range of oil analysis and condition monitoring training for maintenance practitioners operating at various levels within an organisation. WearCheck has been an accredited training partner for the internationally-acclaimed Mobius Institute since 2015, and all the Mobius courses can be run online.

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
Lean Maintenance Planning	1
Operator Asset Care	1
Transformer Oil Analysis	1
Oil Analysis 1	2
Oil Analysis 2	1
WearCheck Practical (English / Zulu)	½
WearCheck Customised	2

OIL ANALYSIS COURSES

* Due to the ongoing Covid-19 situation, please contact WearCheck to confirm whether the courses will be held at a venue or online, as we strive to comply with lockdown regulations and keep our course delegates safe and healthy.

	Oil Analysis 1: Understanding oil and its analysis (2 CPD points)	Oil Analysis 2: Report interpretation (1 CPD point)
Course length:	Two day workshop	One day workshop
Middelburg	March 16, 17	March 18
Rustenburg	May 11, 12	May 13
Northern Cape	June 8,9	June 10
Bloemfontein	July 20, 21	July 22
Durban	August 17, 18	August 19
Johannesburg	September 8,9	September 10
Namibia	October 13, 14	October 15
Cape Town	November 9,10	November 11

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 locaton. Customised training on offer includes sampling of lubricatng and transformer oils, lubricant storage and handling, introducton to oils and concise oil analysis for workshop technicians.

To reduce the risk of exposure to travel and to ensure limited close contact, we also offer our courses online.

Course	Operator Asset Care (3 day workshop): 3 CPD points
Middelburg	June 23- 25
Bloemfontein	August 24- 26
Rustenburg	October 20- 22

Course	Root Cause Failure (1 day workshop): 1 CPD point
Rustenburg	May 14
Durban	August 20
Johannesburg	September 10

Course	Lean Maintenance Planning (3 day workshop): 3 CPD points
Middelburg	May 18- 20
Bloemfontein	July 27- 29
Rustenburg	November 16- 18

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, please view Training at www.wearcheck.co.za. 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

MOBIUS TRAINING

PUBLIC / ONLINE MOBIUS COURSES*

Course	CPD points	May	Jun	Aug	Sep	Nov
Vibration Analysis – CAT 1	3		7- 10			
Vibration Analysis – CAT 2	4			16- 20		
Vibration Analysis – CAT 3	4	10- 14				8- 12
Precision Maintenance- Balancing	2					
Asset Reliability Practitioner – ARP A (advocate)	2		21- 23			
Asset Reliability Practitioner – ARP E (engineer)					13- 17	
Asset Reliability Practitioner – ARP L (leader)						

To book a Mobius training course, please contact Marius on mariusg@wearcheck.co.za or call +27 72 625-6340.

*All courses are presented at various venues throughout Africa, and many of them have an online option. When booking, please confirm date and venue, as some of these details may change due to Covid-19 restrictions.

All courses can be presented online or on-site at a customer's premises for a minimum of seven delegates. For on-site training, there may be an additional charge for the lecturer's travel and accommodation.

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

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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

30 Electron Avenue, Isando,
Gauteng, 1600
t +27 11 392 6322
e support@wearcheck.co.za



www.wearcheck.co.za

South African Branches

Bloemfontein +27 51 101 0930
Eastern Cape +27 41 360 1535
Middelburg/Witbank +27 13 246 2966
Northern Cape +27 66 474 8628
Rustenburg +27 83 938 1410
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International Branches

Botswana +267 311 6829
DRC +260 977 622 287
Ghana (Tarkwa) +233 54 431 6512
Ghana (Kumasi) +233 54 229 8912
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Mozambique +258 84 697 7006
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Pakistan +92 32 3425 7278
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Zambia +260 212 210 161
Zimbabwe +263 24 244 6369



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