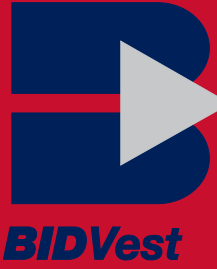




WEARCHECK IS NOW PROUDLY BIDVEST



WearCheck is proud to announce that we are now part of the Bidvest family following the acquisition of our holding company, Synerlytic Group Holdings (SGH), by Bidvest Services SA.

Founded in 1988, Bidvest is a leading industrial group listed on the Johannesburg Stock Exchange (JSE). The company comprises over 250 individual businesses and employs 130,000 people across South Africa, the UK, Ireland, Spain, Australia, and Singapore. Bidvest Services SA operates within four clusters: Security & Aviation, Travel, Allied, and Hospitality & Catering. WearCheck is now part of a newly established Testing, Inspection, and Certification (TIC) cluster.

Under the previous ownership of Infinite Partners, a private equity company, WearCheck achieved significant growth. This included expanding into new markets, broadening our service offerings, and cementing our position as market leaders in condition monitoring across Africa and beyond. However, following Infinite Partners' standard three-to-five-year investment cycle, it was time for a transition.

Neil Robinson, Managing Director of WearCheck, expressed optimism about joining Bidvest. "We are excited about this new chapter with Bidvest and are committed to continuing WearCheck's positive

growth trajectory. We also look forward to adding some exciting new projects to our pipeline in the near future."

WearCheck has evolved into a specialised condition monitoring hub, offering a wide range of techniques applicable across various industries. While scientific oil analysis remains our core service, our commitment to innovation and agility ensures we can meet the ever-changing needs of our customers.



Management teams from WearCheck and Bidvest Services SA met recently to discuss the companies' union. They are, from left, Scott Sowman (WearCheck financial manager), Rebecca Zaire (division executive - transformation, Bidvest), Alf Still (CFO Bidvest), Puso Fisher (business development executive, Bidvest), Akona Matsau (CEO, Bidvest), Alexia Shuenyane (commercial director, Bidvest) and Neil Robinson, WearCheck managing director

WEARCHECK INTERNATIONAL

The IWCG meets annually in a different member country to pool insights about new testing technology and techniques and discuss global condition monitoring trends.

This year, Hungary served as the host country, where WearCheck delegates from Canada, the USA, Thailand, South Korea, Belgium, China, South Africa, and Argentina gathered to strengthen the vital network of our global operations.

Neil Robinson, MD of WearCheck's African operations, attended the IWCG in Budapest recently. He is third from right in the back row (blue shirt)



SEASON'S GREETINGS FROM THE CEO



2024 was indeed a bumper year for the WearCheck team – we joined the Bidvest family, WearCheck Water became the first laboratory in Africa to be officially qualified to test AdBlue®/ DEF (diesel exhaust fluid), WearCheck India was re-awarded ISO 17025 accreditation, we invested in several important new pieces of transformer analysis instrumentation, and we grew our workforce substantially to service our increasing customer base.

The WearCheck flag flew high, when our team members attended five trade shows in three countries, conducted multiple training courses in various African countries, launched a new thermography course, and launched our free Toolbox Training online sessions.

Impressively, our team of diagnosticians has collectively diagnosed over 12.5 million samples, reaching some record-breaking milestones this year. In particular, diagnostics manager, John Evans, who diagnosed over 3 million samples.

We Care, our social responsibility programme, launched several heart-warming projects - including the Fulton School for the Deaf (see article), and Home for Better Hope Foundation.

I extend a heartfelt thank you to our dedicated staff members for these outstanding achievements, and many more.

And to our customers, we sincerely appreciate your ongoing support - thank you!!

NEIL

Festive Season operating hours

As in years past, WearCheck is committed to providing service and support during the traditional close-down period at the end of the year

All main laboratories - DBN, CT, JHB

Tuesday 24th December - Open half day

Wednesday 25th December - Closed

Thursday 26th December - Closed

Friday 27th - Monday 30th Incl. - Normal work days

Tuesday 31st December - Open half day

Wednesday 1st January - Closed

Thursday 2nd January - Normal operations resume

Kathu, Middelburg, Rustenburg

Labs closed but offices remain open as per above. All samples will be sent to DBN for analysis.

ARC & AFS - available throughout festive season.



As the year draws to a close, we'd like to express our heartfelt gratitude for trusting us with your condition monitoring and water analysis needs. Your partnership fuels our mission to deliver excellence and reliability. We wish you and your loved ones a truly blessed and peaceful African Christmas. Here's to a bright and successful year ahead!

TECHNICAL TIP: LUBE SERIES EXTREME PRESSURE (EP) ADDITIVES

BY STEVEN LUMLEY, TECHNICAL MANAGER

What are they?	Sulphurised fats and oils, Organic sulphur compounds, Sulphides, Phosphates, Metal Dithiophosphates and Chlorine compounds
What do they do?	Reduce friction and wear, and prevent scoring and seizure
How do they do it?	Chemical reaction with the metal surface to form a film with lower shear-strength than the metal, thereby preventing metal-to-metal contact

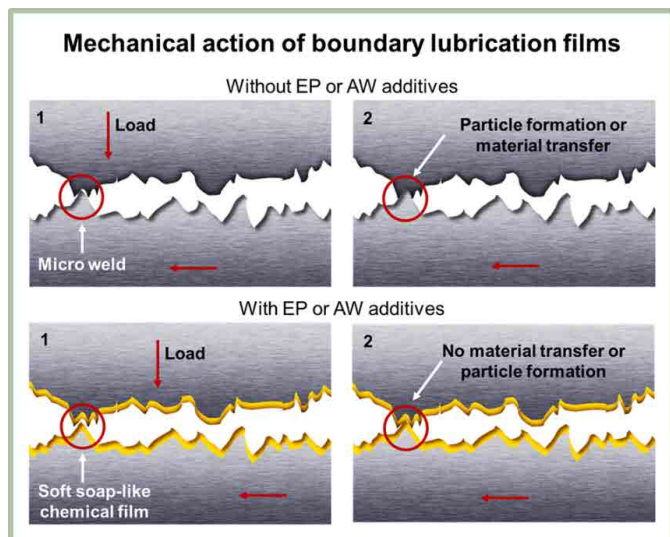
Continuing on our journey through the world of anti-wear additives, this final instalment of the lube series will look at additives that work their magic under pressure – Extreme Pressure (EP) additives - the other metal guardians in your oil.

The development of EP additives gained momentum during World War II, as high-performance lubricants were needed to lubricate military hardware. Sulphur-based EP additives emerged as a significant advancement in additive chemistry during this period.

During the 1950s and 60s, the use of chlorine-based compounds like chlorinated paraffins became widespread, but as the years rolled on, the use of chlorine-based additives declined due to environmental and health concerns.

EP additives work their magic at the beginning of the Stribeck Curve, where lubrication conditions are either in the mixed-lubrication or boundary-lubrication regimes. However, EP additives are generally more critical in boundary-lubrication conditions than in mixed lubrication.

In boundary-lubrication conditions, the interacting surfaces are in direct contact without a sufficient oil film separating them. EP additives play a crucial role by preventing adhesive wear and protecting components when the lubricating oil is unable to maintain an adequate film thickness.



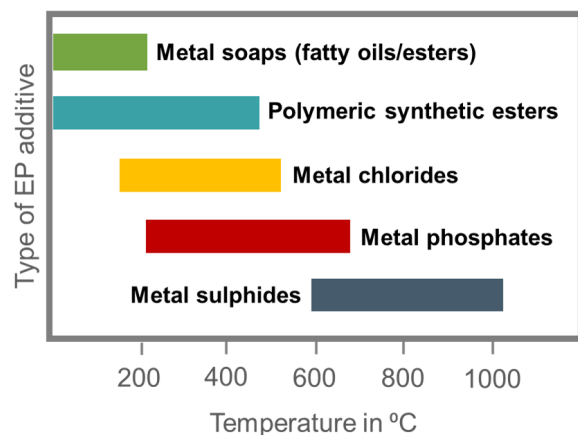
They are activated at high loads and by the high contact temperatures that are created in boundary-lubrication conditions. They are typically used in gear oils and give those oils that unique, strong sulphur smell.

These additives are more chemically aggressive than anti-wear additives. They react chemically with metal (iron) surfaces to form a sacrificial surface film that prevents the welding and seizure of opposing asperities caused by metal-to-metal contact (adhesive wear).

Let's look at the common types of EP additives.

Sulphur-based compounds form metal sulphide films, and are among the most widely used and effective EP additives. They rely on tribochemical reactions to create these protective metal sulphide films. Under high pressure between metal surfaces, the sulphur bonds in the additives break, releasing reactive sulphur. This sulphur then reacts with metal atoms to form metal sulphides, which have a layered crystalline structure. This structure creates a lubricating film with high adhesion, low shear-strength, and the ability to replenish rapidly as it wears away.

Activation temperature for different EP additives



Sulphur-based EP additives can be categorised into two types:

Active Sulphur EP Additives: these are highly reactive and readily interact with metal surfaces, especially at elevated temperatures. They form a protective metal sulphide film that prevents metal-to-metal contact under extreme pressure. However, active sulphur can also cause corrosion of softer metals, such as copper and brass.

Inactive Sulphur EP Additives: these are less reactive at typical operating temperatures and do not aggressively attack metal surfaces. They provide EP protection by gradually forming protective layers through slower chemical reactions, without aggressively bonding with the metal surface under standard conditions.



continued page 5...

WORLD OF WATER: the importance of sustainable water management

Sustainable water management is the process of meeting the current water needs without compromising future water needs. This simply means that we want to ensure that everyone has access to clean water today, but not at the expense of future generations.

Moses Lelaka, WearCheck Water's technical water laboratory manager, warns of the consequences of wasting this precious resource. 'As we deplete our water supply, of which there are no alternative water resources, we essentially diminish the chances of human and other life surviving. We could ensure that we meet the water-use needs of every individual by effectively managing the earth's water resources. Unfortunately, this is not what is happening today, as water has become a commodity, and in some areas water scarcity is the norm.'

There are a few solutions that can promote sustainable water management around the globe and minimise water scarcity. These include:

- **Creating new policies:**

The most effective way to improve sustainable water management is through senior government officials implementing new water governance policies and better water-system planning. This includes the construction of sewage plants and managing effluent going into water sources such as streams and dams.

- **Leverage technology for more water:**

An example of using technology in water sustainability is desalination plants, which remove dissolved mineral salts from water to make it safe for human consumption and irrigation. Other options include water reuse through stormwater runoff or wastewater treatment.

- **The use of water-saving devices**

A good example is the use of the smart meters in homes to monitor and control water usage. Some devices are also used to monitor leakages.

Taking advantage of water-saving technologies leads to better, more sustainable water management for a better future.

Although sustainable water management may seem like a global issue, each one of us has a responsibility to help the cause. Individuals can do their part by making a few simple changes to their habits, being conscious of their water consumption, and practicing sustainable use. For example:

- Turn off the tap while not in use while brushing your teeth or washing dishes
- Take shorter and more efficient showers
- If you plan an outdoor event, stay mindful of the water you use.



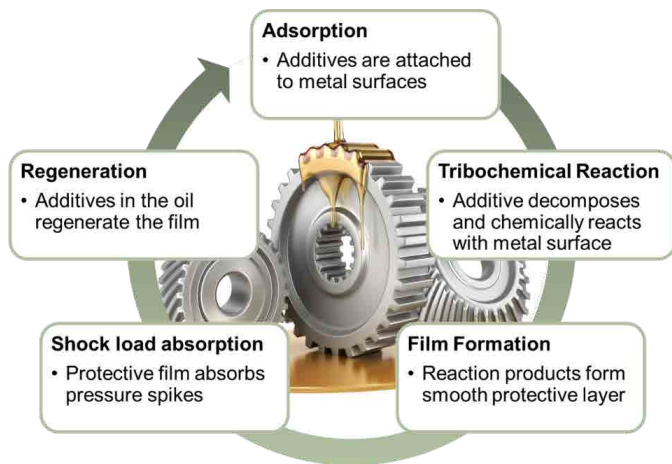


LUBE SERIES - continued...

Phosphorus-based compounds form metal phosphate films, creating a smooth polyphosphate layer that offers good wear resistance and load-bearing capacity. While these films are typically thicker, they are less durable than sulphur-based films and may have reduced effectiveness at higher temperatures

Chlorine-based compounds form iron chloride films but, as mentioned, the use of these additives has significantly declined due to toxicity concerns.

EP additives protect load-bearing surfaces through a series of reactions over the oil's lifecycle. The process generally involves the following key steps:



Adsorption – additive molecules are attracted to metal surfaces through polar interactions.

Tribochemical Reaction – under extreme pressure, the additive molecules decompose and chemically react with the metal surface, forming a protective, inorganic compound

Film Formation – depending on the type of EP additive, the reaction products form a smooth protective layer, which may be crystalline or amorphous in structure. This film reduces friction and metal-to-metal contact, providing a smooth, lubricating film to protect surfaces under high pressure.

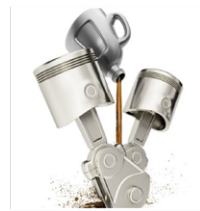
Shock Load Absorption – the protective film, whether crystalline or amorphous, absorbs pressure spikes and helps reduce mechanical stress on the base-oil film, preventing metal-to-metal contact.

Regeneration – as the protective films wear off, the additives in the oil regenerate the film, maintaining ongoing protection.

The exact chemical reactions between the additive and metal depend on both the type of EP additive and the composition of the base metal.

In a nutshell, EP additives sacrifice themselves to form an inorganic solid film on the metal surface, that delivers wear protection under boundary-lubrication conditions. The exact chemical reactions between the additive and metal depend on both the type of EP additive and the composition of the base metal.

So, to recap, EP additives react with metal surfaces during operation at high pressures and temperatures, creating a protective layer that reduces wear between two mating metal surfaces. Anti-wear additives perform in a similar manner, but tend to operate under lower pressures and temperatures. They are similar but different. In fact, some might even say they are poles apart. (That pun is for the chemists among us!)

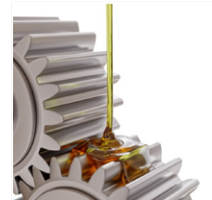


Anti-Wear Additives:

- Low to moderate pressure
- Low to moderate temperature
- High speed
- Deposit surface films under normal operating conditions to reduce rate of continuous wear

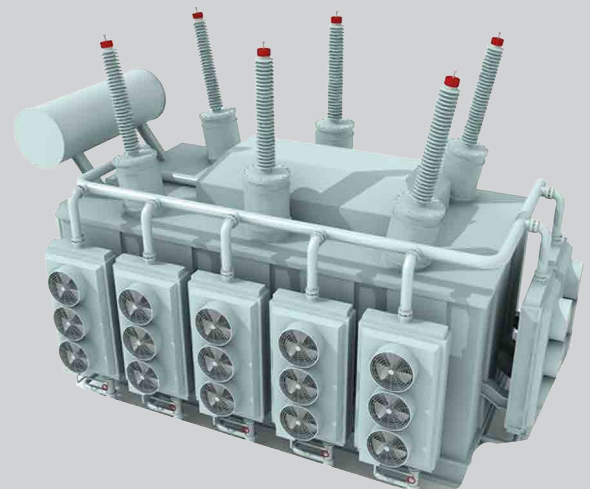
Extreme Pressure (EP) Additives:

- High pressure
- High temperature
- Low to moderate speed
- React rapidly with surface under severe stress to provide a protective film and reduce wear



TOP TRANSFORMER TIPS

Before electrical machinery fails, signs of trouble appear. It is important to determine the condition of your power-generation, transmission or distribution-system assets using analysis of the insulating liquid. Testing can detect developing apparatus problems such as local overheating at a loose connection or electrical discharge between turns, so problems can be managed. Oil degrades as a result of oxidation and operation. Degradation of the oil produces sludge and other by-products that can cause equipment to fail. And if oil degradation is not enough, there is a variety of other conditions that can also adversely affect the performance of the oil and the apparatus. Condensation, leaking gaskets, internal arcing, to name a few, can drastically affect the dielectric properties of the liquid as well as the physical condition of the insulation. With proper diagnostic testing, catastrophic failures can be avoided.



MAKING HEADWAY



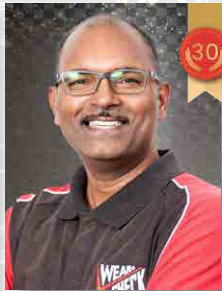
LONG SERVICE VALUED

Spending numerous years with a single company offers significant advantages for both employees and employers. Customers appreciate the consistency, while staff members build confidence and become deeply knowledgeable about their roles. This familiarity allows them to execute tasks efficiently and dependably, drawing on their extensive industry experience.

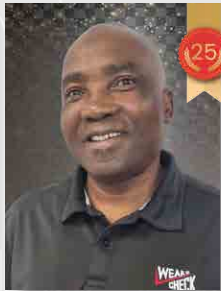
We recognise our teammates who have spent many years as part of the WearCheck family, in this issue of *Monitor*:



Lorain de Bruin
branch co-ordinator



Ravi Chetty
diagnostician



Aaron Mchunu
recycling assistant



Lynette Pillay
transformer lab mng



Donovan Narainsamy
IT systems administrator



Julia Motshwene
cleaner



Welcome, Jamie-Lee!

Jamie-Lee Theron has joined the WearCheck team in the role of customer support assistant, based in Kathu. She handles all customer support functions (including sales, after sales and general enquiries), as well as general office administration duties.

Jamie-Lee holds an N6 in human resource management, and on weekends, she enjoys spending time with family and friends, and creative cooking.

WearCheck Kathu is now located at Kalk St in the Kathu Industrial Area.



The Millionaires Club

Lea Bodenstein



1 million samples



Lea Bodenstein and Quinton Verster, both diagnosticians at WearCheck, have officially joined the 'Millionaires Club'.

Lea has been part of the WearCheck family for nearly 10 years, based at our Middelburg office.

Quinton has been with WearCheck since 2003 (with a short break from 2007-2010), and is based at our Westville office.

Congratulations Lea and Quinton on achieving this major milestone.

Quinton Verster



1 million samples



Unlocking Lubricant Longevity: The Power of RPVOT Testing

There are multiple degradation pathways that turbine oil faces under operational stress, but the dominant failure mode in an operating system is oxidation, one of the primary causes of lubricant degradation.

Simply put, oxidation occurs when oxygen reacts with the hydrocarbon molecules in the base oil of a lubricant. The oxidation process is significantly accelerated by heat, with a 10°C increase in oil temperature effectively doubling the oxidation rate. Contaminants such as water, and metallic wear particles containing copper or iron, act as catalysts, further speeding up oxidation.

As oil oxidises, it forms acids and insoluble oxidation products, which can lead to formation of sludge or varnish. These degradation products can coat bearing- and oil-cooler surfaces, preventing adequate cooling of the bearings. Areas with tight tolerances such as hydraulic control valves can also become coated, causing operational issues. What's more, as the oil oxidises, its foam control, demulsibility and air-release characteristics will likely deteriorate.

In a nutshell, poor oxidation resistance shortens the oil's service life.

All turbine oils contain antioxidants, which serve as the base oil's first line of defence against oxidation. However, like all additives, antioxidants are sacrificial in nature and must be monitored through advanced oil analysis to determine the oil's remaining life. This allows for proactive planning of oil replenishment and maintenance activities.

One such advanced oil analysis technique is the Rotating Pressure Vessel Oxidation Test (RPVOT).

The RPVOT is an essential tool in the lubricant industry for evaluating a lubricant's oxidation resistance, particularly for turbine oils, hydraulic fluids, and other industrial lubricants. This test is crucial for ensuring that lubricants can withstand the oxidative stress encountered during operation, thereby extending their service life and protecting machinery from premature wear.

Let's take a closer look at how WearCheck performs RPVOT analysis using ASTM D2272 – Method B.

The test begins by placing a predetermined amount of the lubricant sample, along with distilled water and a copper catalyst coil, into a glass container. This container is then sealed and placed inside a rotating pressure vessel, which is filled with oxygen to a specified



pressure and heated to a standardised temperature (typically around 150°C).

Initially, the antioxidant additives in the oil resist oxidation. However, once these additives are depleted, the oil starts to oxidise, leading to a pressure drop within the vessel. The test continues until the pressure drops by a predetermined amount, with the time taken for this drop indicating the oxidation stability of the sample.

Depending on the condition of the sample, the test duration can range from 200 minutes to over 3,000 minutes. The result is reported as the time, in minutes, required for the pressure drop to occur. A longer RPVOT time suggests better oxidation stability, indicating that the lubricant is more robust and capable of performing well under oxidative stress.

For industries where equipment reliability is paramount, performing regular RPVOT analysis is invaluable, as it provides an early warning of potential lubricant degradation issues that can escalate to unplanned downtime. The cost of changing the oil in an industrial turbine is substantial, so maximising lubricant life is key. However, the greatest financial benefit of advanced oil analysis techniques like RPVOT is improved machine reliability and overall operational integrity.



OUT AND ABOUT



WearCheck team members have been working hard to provide condition monitoring training in various locations, and to showcase our services at a variety of expos in several countries.

Electra Mining Africa 2024

Delegates enjoyed the WearCheck stand at Electra Mining Africa in Johannesburg in September, where we showcased our condition monitoring services for the mining and power-generation sectors.



Ready to welcome delegates are WearCheck staffers (from left Melissa van Aardt, Pearl Mashaba and Juliane Strydom)

Nampo Cape 2024

At Nampo Cape, the WearCheck team showcased our testing, analysis, and diagnostics capabilities - not only for oil and fuels, but also for water. Delegates enjoyed our display examples of typical component failures caused by improper lubrication practices.



Pierre le Roux, transformer and fuel lab manager, welcomes visitors to the Nampo stand in Bredasdorp

Namibian Mining Expo

At the Chamber of Mines Mining Expo in Windhoek, Namibia, the WearCheck team presented information about the company's core capabilities, including asset reliability care (ARC), lubricant analysis, vibration, thermography and more.



Representing WearCheck in Namibia were (from left) Marcel Schoeman (ARC sales manager), Rohan Willer (ARC Namibian country manager), Johann Reniers (technical sales), and Jaco Willer (ARC business unit manager – foreign ops)

Mine Entra Zimbabwe

WearCheck Zimbabwe showcased their oil analysis and other condition monitoring services at the Mine Entra mining expo in October in Harare. There was strong interest in how WearCheck can assist an operation with making data-driven decisions to maintain and manage assets



Shesby Chabaya (operations manager) and Evan Meyer (general manager) are seen at the WearCheck Zimbabwe stand

Several of our WearCheck staffers have made notable achievements in their sporting hobbies recently. Here are the stories of three of our heroes.

Hajra makes Protea team, again!

Angling champ Hajra Ahmod, who works as a lab assistant at WearCheck Durban, was selected to represent South Africa for a second time on the ladies Rock & Surf Angling team in Namibia in December.

In her first international competition in December last year in Namibia, the SA team excelled, winning five of the six divisions. Hajra landed a 90kg bronze whaler shark and a 20kg spotted gully shark during the contest.

In February, she competed in the SA national tournament in Langebaan, placing in the top 10, and winning a trophy (biggest edible fish) and a medal (most number of fish caught). These impressive results led to her selection for the Springbok team

Says Hajra, 'Being an athlete for your country comes with massive responsibility and dedication. I am forever humbled amidst every other angler I meet. Another super-proud achievement for me is my current 5th position in SA on the ladies ranking.'

Hajra, WearCheck congratulates you and wishes you well in the upcoming contest – may the fish always be in your favour!



Kay hits 100km!

WearCheck sales developer, Kay Meyrick, completed the Umko Adventure event recently – a gruelling, two-day mountain-bike race covering 100km up and down the Umkomaas River valley in KZN. Well done on this impressive achievement, Kay!



Jaco earns Protea kickboxing colours



Jaco Pretorius, a senior inspector in WearCheck's advanced field services (AFS) division in Joburg, was awarded Protea colours for his role in the South African National Kickboxing coaching team. His son, Jaco Jr (12 years), was also awarded junior Protea colours for participating in the fighting and musical katana sword form.

Jaco Jr competed in the SA Kickboxing Championships in Potchefstroom in April this year, and was selected for the Junior National Team. He attended the Junior WAKO Youth World Kickboxing Championships 2024 in Hungary, Budapest in August. (WAKO is the World Association of Kickboxing Organisations).

Jaco senior, a 5th Dan WAKO Kickboxing Blackbelt Instructor for over 30 years, was selected as one of the Senior Protea coaches of the team. Says Jaco, 'It is a real privilege to be one of the coaches while your son is part of the team!'



The team did well at the world champs, where Jaco Jr achieved two 9th places (each for Fighting and With Weapon). This is the biggest kickboxing event in the world, with teams from 68 countries competing. Congratulations on your achievements, Jaco and Jaco!

WEARCHECK CARES



Partnering with Fulton School for the Deaf

At WearCheck, we take our relationship with the community seriously, especially when it comes to supporting our youth. In line with our We Care social responsibility initiative, we launched a work-skills programme with the Fulton School for the Deaf to help students pursue their career aspirations.

The school is dedicated to educating deaf and hard-of-hearing learners, and offers classes aligned with SA's national curriculum from pre-primary to Grade 12, as well as specialised programmes for deaf learners with additional learning barriers. Founded in 1959, it is the oldest school for the deaf in KZN, and has a proud history of achievements in its specialised educational field.

The WearCheck partnership is particularly meaningful, as it began through our own mini-lab technician, Shane Goslin. Over 20 years ago, while working at a local fish and chip shop, Shane encountered two students from the school who wanted to place an order. Reflecting on the experience, Shane shared: 'With me being unable to communicate in Sign Language, and them unable to vocalise their order, it was a challenging situation. But thanks to their determination to be understood, and a little effort on my part to understand them, they left with the packet of chips they wanted, and I left with a valuable life lesson. When both parties are willing to make the effort, clear communication is always possible.'

'When WearCheck sought to include more people with disabilities in our company, this simple yet impactful memory led me to suggest reaching out to Fulton School for the Deaf. With just one email, a new and exciting partnership was born.' WearCheck recently donated 10 tablets to the school. HR Manager Michelle Padayachee said, 'The students visit our

KZN premises every Thursday and get involved in some hands-on work. They enjoy interacting with staff, gaining an understanding of how a workplace operates and experiencing WearCheck's hospitality, for which we pride ourselves. Along with the work experience we're offering the students, we hope to help prepare them for their future careers.'

At WearCheck, We Care!



Demonstrating how you say "thank you" in sign language is Thobile Mngoma – deputy principal of Fulton School (right). With her, from WearCheck, are Michelle Padayachee (HR manager) and Shane Goslin (mini-lab technician)



The wheels on the bus go round and round, thanks to WearCheck!

270 learners at Hoerskool Hennenman in Bloemfontein can now get to lessons and back home safely each day, thanks to the timely intervention of WearCheck.

Don Geyer, who handles customer support for WearCheck, takes up the story. 'The school's three buses were not running smoothly, so we offered to investigate. We did two tests on fuel from suppliers. The tests were standard tests according to SANS specs as well as testing for the SARS marker for illuminating paraffin.'

'Paraffin was detected in one of the samples, as well as visible debris in that same sample. The other sample was normal. Once the faulty fuel was replaced, the buses were able to run smoothly again. We conducted the tests at no charge to the school, as part of our We Care community support initiative.'

Hoërskool Hennenman is grateful for the support, and posted their gratitude on Facebook.

'No school can thrive without the selfless service and sacrifice of the community. Without Don Geyer and WearCheck's interest in our school's buses, our buses would not have run so smoothly this year. Thank you for your support in keeping our buses and our children safe.'





WEARCHECK MEETS NEW TRANSFORMER SAFETY REGULATION

WearCheck's Cape Town transformer laboratory recently acquired a new closed-cup flash point tester.

The flash point of a substance is the 'lowest liquid temperature at which, under standardised conditions, a liquid gives off vapours in a quantity such as to be capable of forming an ignitable vapour/air mixture' (British Standards classification, EN 60079 Part 10-1).

Transformer divisional manager, Gert Nel explains further, 'This acquisition ensures that we comply with a new safety requirement issued by the Department of Labour, specifically for the City of Cape Town. The regulation mandates the testing of flash points on all switchgear before it is activated. While this requirement currently applies only to Cape Town, I anticipate it will gradually be adopted by other municipalities across RSA.

Why are flash point tests on mineral oils important?

'The flash point - a critical property of mineral oil used in electrical transformers - directly impacts the safety and operational integrity of the transformer.

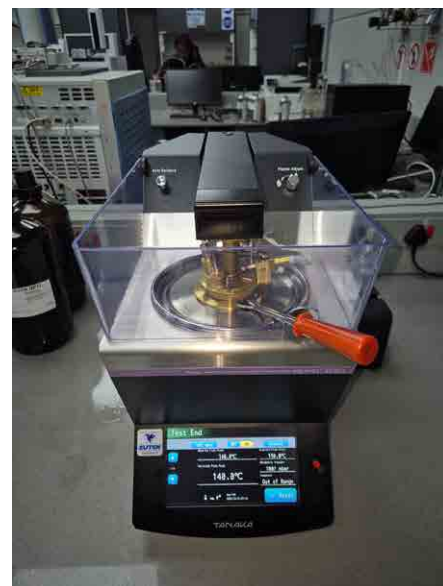
1. Fire safety: the flash point of mineral oil is the lowest temperature at which the oil vapours can ignite when exposed to an open flame. A higher flash point indicates that the oil is less likely to catch fire under normal operating conditions. Within transformers, this is crucial in preventing potential fires, which can cause extensive damage, pose safety risks, and lead to costly outages.

2. Thermal stability: transformers operate under high temperatures, and the oil acts as both an insulator and a coolant. Oil with a low flash point may start to break down or vaporise at lower temperatures, reducing its effectiveness. A higher flash point ensures the oil remains stable and functional even under high thermal stress.

3. Longevity and reliability: maintaining mineral oil's integrity is essential for the long-term reliability of the transformer. Oil with a higher flash point is generally more resistant to degradation over time, which helps in preserving the dielectric strength and cooling properties of the oil. This prolongs the transformer's life, reducing the need for frequent maintenance or replacements.

4. Regulatory compliance: Many industry regulations require transformers to use insulating oils with a specific minimum flash point. Ensuring the mineral oil meets these requirements is necessary for compliance and can also influence insurance considerations and operational approvals.

'In summary, the flash point of mineral oil is vital for ensuring the safe, efficient, and reliable operation of electrical transformers. It plays a key role in preventing fires, maintaining thermal stability, and supporting the long-term performance of the transformer.'



New UHPLC instrument speeds up transformer testing

WearCheck's transformer testing service received a massive boost with the company's brand new ultra-high-performance liquid chromatography (UHPLC) instrument, which reduces testing time from 45 minutes to just five minutes.

UHPLC is a technique in liquid chromatography, used to separate different constituents of a compound, which utilises improved processes to achieve increased sensitivity and reduced elution time resulting in a higher performance level. Columns with particle sizes of less than 2μ can be used, providing better separation than HPLC, where particle size is limited to 5μ . At WearCheck the equipment is used predominately to identify, quantify and separate the Furanic components of transformer oil.

Transformer divisional manager, Gert Nel, is excited about the high speed of the new instrument. 'We expect this to improve our efficiency greatly. It means that our transformer customers will receive their test results much faster, which in turn helps them to make quick, data-driven decisions regarding transformer maintenance, particularly in critical situations.



CUSTOMER SURVEYS, SALES AND TOOLBOX TALKS

We hear you!

'We would like to express our heartfelt gratitude to all who participated in WearCheck's annual customer survey. Your insights are incredibly valuable to us and play a crucial role in shaping our future business services.' So says an appreciative Kay Meyrick, WearCheck's sales developer, who is pleased with the positive feedback.

Three survey respondents were selected to win a set of limited-edition WearCheck mugs. The lucky winners were Kerry Hannah of Infinity H2O (WearCheck Water customer). Hans Dittmar from Van Tonder Transport (customer since 2008) and Deon Goosen of Buscor (customer since 2003).

Here are some kind words from our esteemed customers:

Keep on doing great work!

My experience with WearCheck is good, and I am learning from the report analysis.'

Very efficient service.

Excellent service from the team!

Professional and friendly staff made the process easy.

Just keep it up, you are doing excellent!

'The entire process was very simple, thank you for making it so seamless and easy.'

'I am very happy to work with the WearCheck team based at the Durban branch. Sales / IT support know their product very well, which makes communication easy and efficient. Well done, WearCheck. I recommend your service to the people I know. I also wrote an article on your WearCheck publication so other companies can see what you are doing, in order to prevent a major component failure.'

Sales team summit

WearCheck's sales representatives held their annual conference in Johannesburg recently. After a fun day of teambuilding, they got down to business and learned about new strategies for enhancing customer service. The group included 21 WearCheck representatives from South Africa, Zimbabwe, Zambia, Ghana, and Mozambique.

WearCheck's international sales teams congregated in South Africa recently for a think-tank. The company's national sales manager, Juliane de Beer (centre), hosted the conference



Free Toolbox Training sessions

WearCheck offers free online training on topics such as "How to Take an Accurate Oil Sample" and "How to Complete a Submission Form" through our monthly Toolbox Training sessions. Since these sessions are held on an online platform, you can log in remotely from anywhere.

Each session begins at 9:00 AM and typically lasts about three hours, depending on the Q&A.

The proposed sessions for 2025 are as follows:

24th January	5th July
21st February	22nd August
28th March	26th September
5th April	24th October
23rd May	21st November
27th June	

To register please email toolboxtraining@wearcheck.co.za



The value of training

*“Education is not the filling of a pail, but the lighting of a fire.”
— W.B. Yeats (Irish poet & Nobel laureate)*

WearCheck’s customer training courses include oil analysis courses 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.



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	5, incl. exam
Vibration Analysis ISO CAT II	5, incl. exam
Vibration Analysis ISO CAT III	6, incl. exam
Infrared CAT I	5, incl. exam
Oil Analysis 1	2
Oil Analysis 2	1
WearCheck Customised	2
Asset Reliability Practitioner (3 courses)	6 months
InfraFocus	2

Oil Analysis courses 2025

3 DAY ADVANCED	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
Cape Town	June 10-11	June 12
Durban	August 12-13	August 14
Johannesburg	February 11-12	February 13
Windhoek	April 08-09	April 10

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. Courses are also offered online.

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.

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

2 DAY WORKSHOP	Oil Analysis 1: Understanding oil and its analysis	Oil Analysis 2: Report interpretation
Location	One day workshop	One day workshop
Bloemfontein	July 22	July 23
Johannesburg	May 13	May 14
Kathu	July 08	July 09
Middelburg	March 11	March 12
Nelspruit	November 11	November 12
Richards Bay	October 21	October 22
Rustenburg	October 07	October 08

NEW NEW NEW Transformer Oil Analysis courses 2025

WearCheck now offers a transformer oil analysis course.

COURSE	Date 1	Date 2
Location	One day workshop	One day workshop
Bloemfontein	January 21	May 27

MOBIUS TRAINING



Course	CPD points	Date 1	Date 2	Date 3
Vibration Analysis – CAT I *	4	Jan 27-31	May 26-30	Sep 15-19
Vibration Analysis – CAT II *	5	Feb 24-28	Jun 23-27	Oct 27-31
Vibration Analysis – CAT III *	5	Mar 24-28	Jul 21-25	Nov 24-28
Infrared CAT I		/	May 02-06	Dec 01-05
Precision Balancing		Apr 07-08	Aug 25-26	Dec 08-09
Precision Alignment		Apr 09-10	Aug 27-28	Dec 10-11

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 82 494 9461 or louis@wearcheckrs.com.

* 6 day course, with the exam written on the following Monday.

LUBE TIP

Contamination is the cause of approximately 90% of all hydraulic system failures. If you can maintain desired cleanliness level and keep oil temperature controlled, then downtime can be kept to a minimum. The ideal oil temperature for an industrial hydraulic system is 50 °C. If the temperature reaches 60 °C, oil begins to break down.

UPCOMING EXPOS 2025

- Mining Indaba: 03 - 06 February
- Nampo: 13-16 May
- Enlit: 20-22 May.



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 85 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.



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