**PRESS RELEASE**

Wear control specialist improves efficiencies at Hernic Ferrochrome

***18 October, 2013:*** *Wear control specialist Filter Focus’ involvement in the implementation of a comprehensive lubrication and filtration programme at one of the world’s largest integrated ferrochrome producers in the world, Hernic Ferrochrome, has not only resulted in massive cost savings, but also major reductions in energy and oil consumption and far less machine failures.*

Hernic Ferrochrome, which is located in close proximity to one of the world’s largest chrome ore deposits on the western limb of the Bushveld Complex in the North West Province, supplies chrome ore and ferrochrome to the stainless steel industry worldwide with a particular focus on Europe, Asia and the Far East.

Hernic Ferrochrome plant manager **Jannie Mostert** says that the company prides itself on being a pioneer in the conversion of semi-closed/open furnaces to closed furnaces in South Africa and currently operates four furnaces, namely: two 37 MVA closed furnaces, a 54 MVA closed furnace and a 78 MVA closed furnace – one of the world’s largest ferrochrome smelters.

In order to remain well-positioned to participate in the expected growth in the global steel industry, Mostert says that it is crucial for production at the plant to run as smoothly as possible. “The lubrication and filtration of oil linked to critical components in the plant plays a direct and pivotal role in this production,” explains Mostert.

Prior to Filter Focus’ involvement two years ago, Hernic Ferrochrome encountered countless failures within the plant as a result of insufficient oil, incorrect oil and dirty oil on critical components such as gearboxes and bearings. As a result of these failures, Hernic Ferrochrome brought Filter Focus on board to run comprehensive oil analysis and condition monitoring, whereby all critical components within the plant were fitted with sampling points. The oil analysis programme enabled Filter Focus to identify problem areas and recommend the correct solution to rectify the situation before any further costly failures occurred.

Filter Focus Business Development Officer **Brendon Savage** explains that the company’s involvement initially began through the implementation of a basic lubrication programme and evolved over time to include the supply of specialised Filter Focus filtration units and automatic lubricators on critical equipment.

“Prior to this programme, Hernic Ferrochrome was experiencing extremely high failure rates on parts such as the conveyor gearboxes and conveyor pulley systems. We used to experience close to six or seven failures in a week on various types of components, whereas now in these particular areas, if we have three failures in a month, it is a lot,” states Mostert.

He adds that historically, Hernic Ferrochrome experienced countless bearing failures on their conveyors due to insufficient or no lubrication. “It was not uncommon to have to change two pulleys and a gearbox over a weekend. Most of our conveyor systems are directly linked to the production process, so if a single conveyor is down, the entire production process shuts down,” explains Mostert.

In May 2012, Filter Focus installed Easy Lube RFID automatic lubricators to a vast majority of the conveyor systems in the plant which now provides frequent and exact quantities of lubricant to critical bearings. Mostert says that since the installations of these systems, bearing failures have been reduced dramatically which has kept unscheduled downtime to a minimum.

Speaking on the lubrication of the girth gears, pinion bearings, trunion bearings and gearboxes of Pelletising and Sinter Plant (PS) 1 and 2, Mostert says that since the introduction of Lubrication Engineers’ Pyroshield overall lubrication consumption has been reduced from 400 kg per month to 60 kg per month, equating to an 85% reduction in consumption. In addition to the reduction in consumption of lubricant, Mostert points out that there was a significant reduction in vibration as well as a 20% reduction in temperature across the girth gear face and a 22% reduction across the pinion gear face.

Since being treated with Lubrication Engineers’ Almagard, the pinion bearings in both PS1 and PS2 have shown a reduction in vibration and temperature (approximately 12%). What’s more, Mostert points out that the reduction in temperature on the pinion bearings can be extrapolated into huge energy savings.

Filter Focus’ proprietary micro-fine off-line filtration systems were installed to the PS1’s Trunion bearings lubricating system. Oil cleanliness has been maintained and Wear rates have been reduced by up to 92%. Mostert states that since installation of the filtration system, there has been no need to replace the oil. Similarly, the micro-fine off-line filtration system was installed to the PS1 mill’s gearbox lubrication system. Since installation, the wear rate has been reduced by up to 94% and there has been no need to replace the oil.

Similar results were achieved at PS2 mill with consumption of lubrication being reduced from 400 kg per month to 40 per month, equating to a 90% reduction. Installation of the micro-fine off-line filtration system to the Trunion bearing lubricating systems and mill gearbox lubrication systems has reduced the rate of wear by 86% and 90% respectively.

“Since installation of the filtration systems, we have experienced a dramatic reduction in our Particle Quantifier Index (PQ) – a measure of how much ferrous contamination is present in an oil sample. Prior to installation, some of our machines were running close on 2000ppm and have now all been reduced to below 10ppm – allowing us to run our equipment with much cleaner oil,” states Mostert.

On each of the closed-arc smelters, Filter Focus managed to reduce the operating bearing temperatures of the fans by 51% through the introduction of Lubrication Engineers’ Monolec lubricant.

“The operating temperatures on the bearings of our smelters have been a long-standing problem. Virtually every single fan was operating with compressed air being blown onto each bearing in order to cool them down. Since installing Monolec, the compressed air has been removed and temperatures are now running at an acceptable level, resulting in a monetary saving on both the compressed air as well as lubrication and energy costs,” explains Mostert.

He explains that results with LE Monolec lubricant were experienced by Hernic Ferrochrome within the first thirty minutes of application. “The day we decided to apply Monolec lubricant to the bearing of the furnace pre-heat exhaust fans was the day that we received fan number five for smelter four back from repairs. Generally when you start up a new fan or a new bearing assembly, the operating temperature initially increases and then decreases after roughly six to eight hours. In this case, the bearing temperatures simply weren’t decreasing. I contacted Brendon Savage from Filter Focus and immediately he suggested running the fan on LE Monolec lubricant. That same night we received the oil from Filter Focus, poured it into the machine and witnessed the temperature from 95 degrees Celsius to 75 degrees Celsius within thirty minutes and then stabilised around the low 50’s. Needless to say, we have been running Monelec lubricant on all of our furnace pre-heat exhaust fans since,” says Mostert.

He concludes by saying that Filter Focus’ solutions at Hernic Ferrochrome have made a marked difference to the operating efficiencies at the plant. The oil analysis and condition monitoring services, as well as the filtration and lubrication products have allowed Hernic Ferrochrome to identify potential problem areas which has enabled us to apply the correct solution; which has not only prevented potential catastrophic machine failures but has also significantly reduced the consumption of energy, oil and grease lubrication.

***Ends.***

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