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Press Release

Tests confirm WS₂ additives are superior

'Time to failure' rates improve up to 259%

Ongoing tests by Techenomics are demonstrating the considerable benefits gained from adding NanoLub tungsten disulphide (WS₂) to oil. The nano-sized WS₂ additives have superior lubrication properties resulting in lower operating temperatures, and providing greater power and fuel efficiency as well as reducing component wear.

Timken tests carried out at Techenomics' ISO accredited laboratories confirm the benefits of using WS₂ in engine, gear and transmission oils, and show the advantages the unique NanoLub product has over other so-called nano additives that do not use tungsten.



Chris Adsett, CEO of
Techenomics International

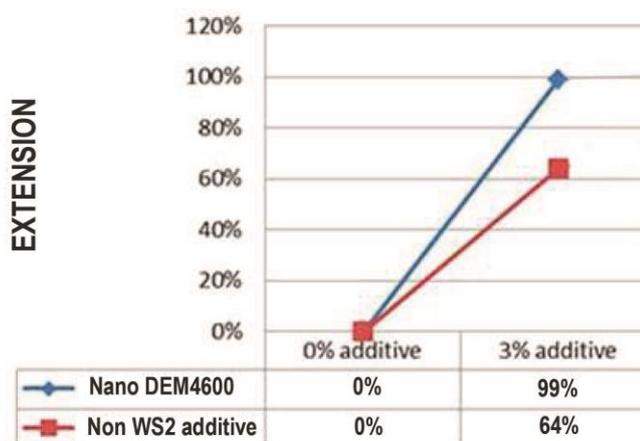
Techenomics' CEO Chris Adsett says, "WS₂ is one of the most lubricious materials known to science and has a coefficient of friction of just 0.03. Its dry lubricity is unmatched by any other substance.

"WS₂ offers excellent lubrication under extreme conditions of load and temperature, and has been proven to be effective from minus 273 degrees Centigrade up to 650 degrees. It offers excellent thermal stability and oxidation resistance at higher temperatures."

The Timken tests are carried out on various oils supplied by Techenomics' customers.

Techenomics technology and product development manager Eka Karmila says the tests compare the time to failure of oils with no additives to those with 3% WS₂ added.

COMPARISON TEST



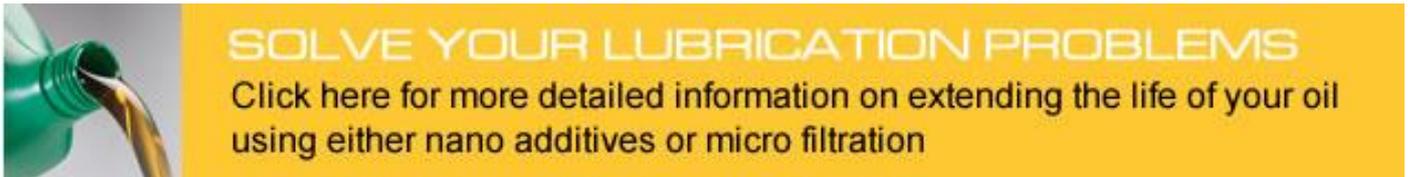
She says with engine oils the most recent tests demonstrate up to a 259% improvement in time to failure while with gear oils the improvement was up to 74% and with transmission oils it was up to 43%.

The best performing engine oil in Indonesian operations with 3% NanoLub DEM4600 WS₂ was Kapuas-Meditrans S40. SIS-Caltex Delo 400MG 15w/40 improved 227%, Jembatan-Medripal 412 improved 161% and Meditrans S40 improved 105%. At Australian operations BP Vanellus C7 showed a 126% increase in time to failure with 3% WS₂ added while Delo 6130 improved 23%.

With gear oils used at Indonesia operations Shell Spirax 85w/140 with 3% COM8080 WS₂ added improved 74% and Shell Rimula SR50 with the same additive improved 21%. For Australian operations SYN EP 80w/140 with 3% COM8080 WS₂ added improved 28% and Fuchs Renolin CLP 460 improved 14%.

For transmission oils the best Indonesian result was Total Dyna 30 with 3% GOS9090 WS₂ added, which showed a 43% improvement in time to failure and at Australian operations Anglomoil 140 with 3% GOM8080 added improved 12%.

A recent comparison test using a competitor's non-tungsten additive showed a 99% increase in time to failure for 3% NanoLub WS₂ from the base rate of zero additive compared to a 64% improvement with 3% of the other so-called nano additive.



Chris Adsett says the Nanolub technology has been demonstrated to work with a wide range of oil and fluids in a variety of environments and in various operations.

“A WS₂ additive pack in most engine and gear oils will lead to lower operating temperatures, greater power and fuel efficiency and lower component wear. The WS₂ technology adds value to the fluid management and condition monitoring services we provide at Techenomics and benefits clients by providing better performance and longer life from their lubricating oils and fluids.

“We are not just spruiking about NanoLub, we are backing up what we say with accurate tests,” he adds.

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