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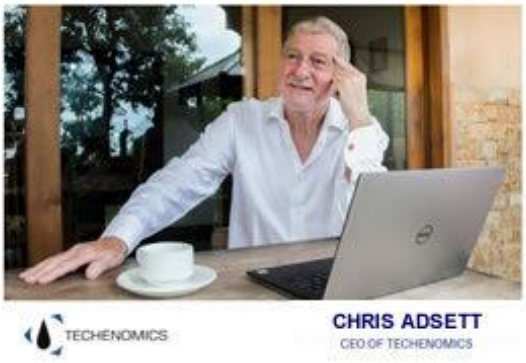
Press Release

Use of Liquid Tungsten lowers operating temperatures

Unique product is distributed by Techenomics



Reducing operating temperatures in engines and mechanical equipment is a key benefit of using the Liquid Tungsten distributed by fluid management specialist Techenomics, your partner in lubrication reliability.

The effectiveness has been demonstrated countless times by Techenomics in laboratory tests and in field trials of the unique product in mining, transport, industrial, power station and agricultural applications.

These successes have led to increased usage with more operators seeking out the product to reduce operating temperatures in their engines and equipment along with the other benefits this brings.
Liquid Tungsten reduces friction between moving metal components thus lowering temperatures which in turn limits wear, increases the effectiveness and life of oil and other lubricants, reduces fuel consumption and decreases emissions.

These qualities result in reduced maintenance intervals, less downtime and lower costs for equipment operators. Techenomics CEO Chris Adsett says the results to date in testing and trials are not to be sneezed at and can be achieved wherever and whenever Liquid Tungsten is added to lubricants, whether in mining, oil & gas, transport, marine, agriculture and other industrial applications.
“In fact, we are happy to provide evidence of the success of the nanotechnology in our ongoing laboratory tests and in-field trials around the world … the proof of the pudding is in the eating.”

The use of tungsten in a lubricant additive has been a success due to the advanced science behind the product, which has unique mechanical, chemical, thermal and tribological properties, as well as the superior qualities of tungsten.

The patented technology involves nano-spheres, or onion-like structures, with layers that exfoliate under pressure to form a super-strong protective tribofilm on the contacting surfaces.

These nanoparticles roll between the surfaces acting as ball bearings, reducing friction, filling surface imperfections and preventing the propagation of cracks.
The tungsten nano-spheres handle extreme temperature conditions from -270°C to 450°C, shock loads in excess of 5,000,000 PSI and pressure resistance of more than 4,000,000 PSI. They also do not induce chemical reactions which can alter the surface creating friction and causing temperatures to increase.

The Liquid Tungsten product is much more efficient than other metal-based additives owing to the hardness of tungsten, which is the second hardest element after diamond, as well as its malleability.

On the Mohs scale of hardness tungsten is rated at around 9 with diamonds at 10 and it has the highest melting point of all metals. Tungsten retains its hardness at high temperatures and under pressure and is also malleable enough to be worked easily.

Tungsten has the highest melting point of all known elements, melting at 3,422 °C; has the highest boiling point, at 5,930 °C; and the highest tensile strength. Its density is 19.254 g/cm3, comparable with that of uranium and gold, and about 1.7 times that of lead.

“Distributing Liquid Tungsten complements the total fluid management services of Techenomics and helps customers get more from their oil and lubricants, thereby reducing maintenance, improving productivity and providing value for money,” Adsett said.

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