

BURY, ENGLAND, October 02, 2013 /**24-7PressRelease**/ -- On stand 3058 Tecvac will be demonstrating the latest advances in micro thin coatings that will provide motor sport with another step increase in performance at the Cologne based exhibition during November 12-14. The company improves the surface characteristics of metal components to impart greater hardness for wear resistance and low friction properties to give natural lubrication. This improves the performance of critical mechanical elements such as the engine, gearbox and transmission.

Tecvac is the specialist coatings division of thermal processing specialist, the Wallwork Group. The Group also provides computer controlled vacuum heat treatment for metal hardening and bonding.

Protecting metal-to-metal surfaces from damage and maintaining the optimal profile, often under low lube conditions, is a typical motorsport challenge. To address these needs Tecvac has numerous materials and techniques available including coatings that cover the full carbon spectrum, from graphite to diamond, giving resilience and lubricity. A range of single, multi-layer and duplex coatings, based on nitride and other materials, is also available. Typically, these are applied to critical components such as camshafts, gearing, bearings and turbo chargers to give both resilience and lubricity.

Tecvac's precision film coatings are applied by physical vapour deposition (PVD) in a vacuum chamber where a crucible of the coating material is vaporised by an electron beam. The component to be coated is rotated on a rack within the chamber so that the vaporised material condenses to produce a smooth even coating on all surfaces. This deposition is assisted by having a negative charge on the component within a positively charged chamber. Tecvac has unique insight into these processes because the company custom builds these machines for their own use and for universities, research organisations and other manufacturers.

"Maintaining the ideal profile in metal to metal components and improving frictional resistance reduces substantially the energy loss resulting in better power transmission. This is the main aim in motorsport, but in automotive and other fields energy saving and longer equipment life with greater service intervals is also a major benefit," explained sales director Simeon Collins.

As a leading aerospace component processor, Tecvac has comprehensive research and development experience and quality assurance facilities enabling it to design bespoke processes to address particular technical issues found in motor racing.

In addition to micro coating and thermal processing, the company has capabilities for vacuum brazing complex components. This process provides exceptionally strong metal-to-metal bonding using a high vacuum environment to ensure that there is no surface oxidization.

Simeon Collins concluded, "We bring expertise from our work with leading aerospace manufacturers such as Airbus, Rolls Royce and Goodrich for the benefit of Formula 1 teams. This means that we operate to world-class research, development and quality standards to produce coating systems and thermal processes that give the sustained performance demanded by the extremes found in motorsport."

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Images are on the web at <http://www.ainsmag.co.uk/wa253/5137wa1a-motorsport-world.htm>