

“We Make Champions!”

Andrea Hürlimann and William Kimberley discuss the importance of coatings in racing and automotive.

Metco has left the Sulzer Group and is now part of the Oerlikon Group.

oerlikon
metco



Andrea Hürlimann
Head of Segment Management
Sulzer Metco Thin Film



William Kimberley
Chief editor of
the magazine Race Tech

LAYER: How important are DLC and SUMEBore® coatings in racing?

William Kimberley: Over the years racing has driven the automotive industry with developments like multi-valves engines, downsizing of high-rev engines, using innovative materials for reducing the effective mean braking pressure, allowing high compression ratio and super-charging. One of the major inputs of racing industry has contributed to the automotive in the reduction of friction. Friction – the greatest enemy of engine performance – will be a major challenge for engine designers in the future. DLC and SUMEBore® coatings will play a more important role for friction reduction in racing series.

Andrea Hürlimann: Yes – and on 1 July 2010 two coating pioneers unified their strength: Sulzer Metco and Sorevi. With our expertise in the industry we are able to push the development for our customers and create added value on multiple levels: Due to reduced friction our solutions offer improved performance and increased reliability. Our contributions to weight reduction and corrosion resistance are further arguments for the increasing importance of coatings. We are proud to make champions!

LAYER: How would you evaluate the future importance of coatings in racing? How will their importance work out?

William Kimberley: In the past coatings were well known with top teams, but this technology is no longer a privilege for the high budget racing series and teams – finally the benefits are obvious for everybody. Therefore I think, technologies like DLC will play a big role in racing cars furthermore (engines and gears). Meanwhile in every area of this sport there is a driving force to advancements – to coat parts that have not been coated before.

Andrea Hürlimann: I share Williams views: Already today we have working solutions for the coating of additional parts in and outside the engine for improving efficiency and performance. The corporate development of individual solutions helps everyone involved: We expand our expertise continuously and customers benefit from optimized solutions. Besides customized solutions for high tech teams in Formula 1 and NASCAR we also offer solutions for smaller racing series and standardized solutions for hobby race drivers.

LAYER: How do you think the manufacturers of mass production vehicles can benefit from to developments made in racing?

William Kimberley: The development and the practical use of coatings is something automotive industry has adapted from racing – especially for high performance cars. In my opinion

this process will expand on middle and small cars in the future.

Andrea Hürlimann: We are here from the start of coatings in racing and additionally we bring along experience in mass production. We are well positioned for the progress predicted by William and also have a view on our expertise in CO₂ and weight reduction. Thereby we make an important contribution to better environmental balance of automobiles. Likewise we are well prepared – personnel and technology-wise – for future challenges, thanks to the cooperation with the automotive and engineering industry. ■

SUMEBore® – Thermal coating for cylinder walls

A further step to CO₂ and friction reduction is coating of the cylinder walls with SUMEBore® technology by Sulzer Metco. Such coatings – as well as CAVIDUR® – are used in racing and mass production with success: from Formula 1 and NASCAR cars to sports cars (e.g. Bugatti Veyron and Aston Martin One-77) and mass production cars (e.g. Volkswagen). These thermal sprayed SUMEBore® coatings have proven over ten years, in the beginning in

racing, later also in mass production. The coating characteristics are balanced by requirements for performance improvement (racing) or for emission reduction (mass production). Beyond that corrosion resistance can be improved if necessary. In Aluminium engines cylinder liners are unnecessary when coated cylinder walls with SUMEBore® – weight and size of the engine can be reduced significantly. The interaction with a thin film coating



(PVD or DLC) by Sulzer Metco Thin Film for examples of the piston ring or piston skirt are used optimize the efficiency even more. ■