For more information visit: www.ATZonline.com

COVER STORY

The CCS Combustion System from Volkswagen



4

Future vehicle drive systems will be required to have lower pollutant emissions and greater efficiency. Combining the advantages of the petrol and diesel combustion processes is a way of achieving these objectives. In the Group Research — Drive Systems of Volkswagen AG, this implementation is referred to as the **CCS Combustion System**.

COVER STORY

Combustion:

The CCS Combustion System from Volkswagen Wolfgang Steiger, Ulf Stolte, Ingo Scholz, Stefan Schmerbeck

DEVELOPMENT

Injection Techniques:

10 Precision Tubes for High-Pressure Diesel Injection Lines

Michael Hagedorn, Uwe Lechtenfeld, Andreas Zaremba

Finite Elements:

16 Thermomechanical Damage – From Microstructure to FE-Analysis

Sebastian Thalmair, Andreas Fischersworring-Bunk, Josef Klinkenberg, Karl-Heinz Lang

Exhaust Gas Aftertreatment:

22 Long-term Durability of NO_x Aftertreatment Systems for Diesel Engines

Friedemann Rohr, Ina Grißtede, Ulrich Göbel, Wilfried Müller

28 The SCRi Concept for Exhaust Gas Aftertreatment — Integrated PM Reduction in an Urea-SCR System Eberhard Jacob, Raimund Müller

RESEARCH

Fuels and Lubricants:

36 Alternative Fuels from the Engine Lubrication Point of View

Rolf Luther

Supercharging:

42 Acoustics Development for Exhaust Gas Turbochargers Stefan Pischinger, Harald Stoffels, Christoph Steffens, Richard Aymanns, Rémi Stohr, Martin Atzler

RUBRICS

- 3 Editorial
- 3 | 33 | Imprint