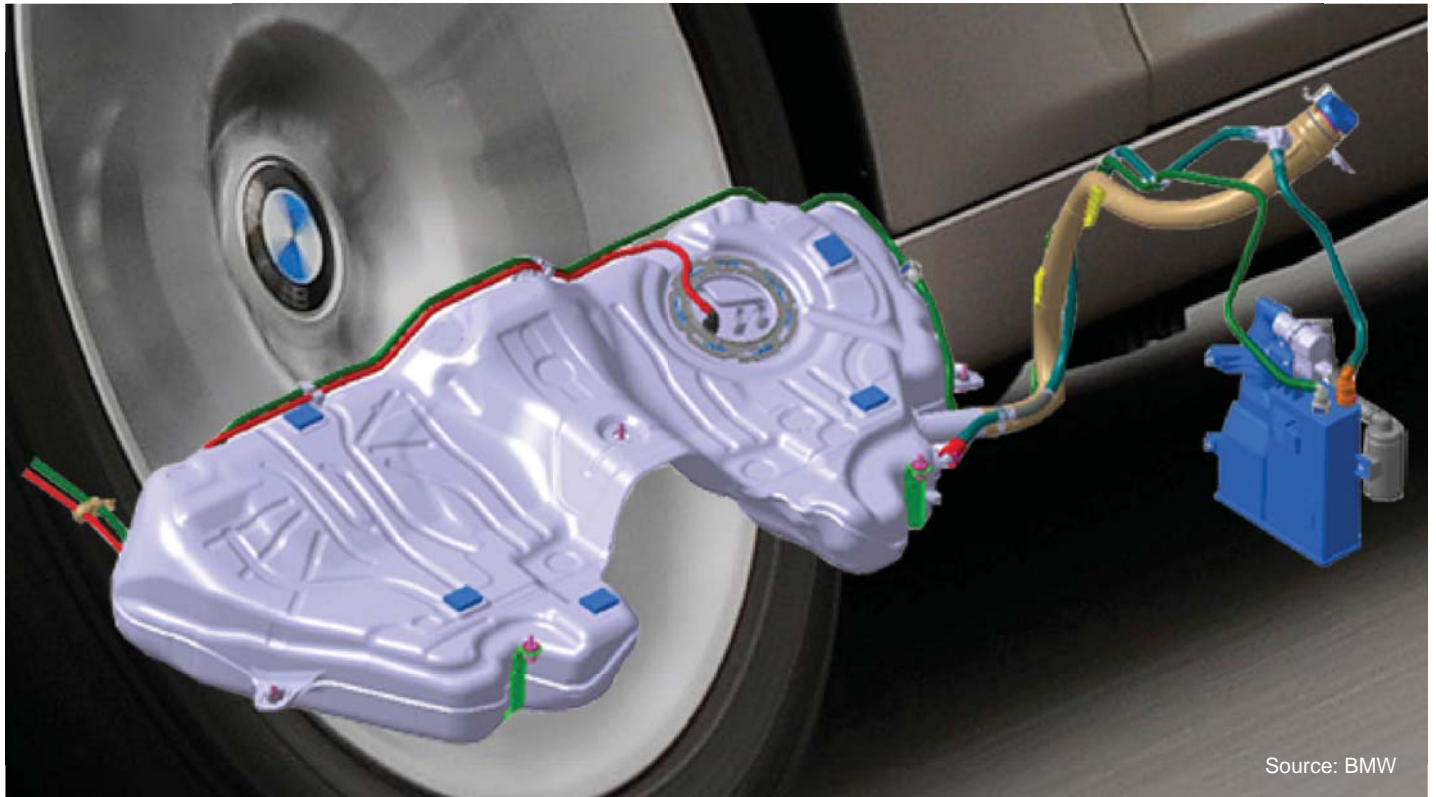


TENTH ANNUAL
INTERNATIONAL CONFERENCE

AUTOMOTIVE FUEL SYSTEMS 2009



Source: BMW

FINAL PROGRAM

THURSDAY, MARCH 5, 2009

FORD MOTOR COMPANY CONFERENCE AND EVENT CENTER
DEARBORN, MI USA

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AUTOMOTIVE FUEL SYSTEMS 2009

AGENDA

Please note that conference proceedings are not available

7:15 a.m. -

8:20 a.m. **Registration and Continental Breakfast**

8:20 a.m. **WELCOME and OPENING REMARKS**

Dr. Joel Kopinsky, Managing Director

The ITB Group (U.S.A.)

Fuel Tank Innovations

8:30 a.m. **Twin Sheet Blow Molding Implementation - How it can Benefit Different Tank Shapes and System Requirements**

INERGY Automotive Systems (Belgium)

All fuel systems are not created equally. Following the implementation of TSBM on the BMW 7 Series, INERGY has further studied the fuel system market and found that TSBM offers different advantages to different fuel systems. The presentation will help in understanding these design considerations on a tank-by-tank basis. It will show that whether it is a PZEV, cost or performance concern, TSBM offers advantages over conventional blow molding.

9:00 a.m. **Sloshing Simulation Addresses Multiple Functional Requirements for Indication System Calibration**

Ford Motor Company (U.S.A.)

A volume of fluid (VOF) based liquid/gas free-surface CAE methodology has been developed to simulate the float position during fuel slosh. The simulation incorporates different driving conditions and can be used to calibrate indication systems that account for movement of the float.

9:30 a.m. **Tank Advanced Process Technology (TAPT)**

TI Automotive Systems (Germany)

The development of the ship-in-a-bottle process in 2004 opened a new chapter in plastic fuel tank manufacturing and component integration. Recent advances in process technology in the form of twin sheet blow molding has further expanded the opportunities for integrating and internalizing components. TAPT combines the ease of component placement from the split parison process with the conventional blow molding process.

10:00 a.m. **Mid-Morning Break**

OEM and Regulatory Developments

10:30 a.m. **Thermal Protection for Fuel Storage and Delivery Systems**

Ford Motor Company (U.S.A.)

Major components (fuel tank, canister and fuel lines) require heat protection so as to keep the fuel under a certain temperature and to protect the components from thermal degradation. The use of biofuels and flexfuels is expected to increase the need for heat protection. To control cost and reduce the time to market, thermal CAE/CFD tools have become indispensable.

11:00 a.m. **Designing a Fuel Pump Module for Global Requirements: A Case Study**

General Motors (U.S.A.)

The design of a fuel pump module used in global applications will be used as a case study to show how worldwide requirements were met with a family of designs. Key fuel properties, technical challenges, and operating conditions influencing the design are considered. The team structure put in place to engineer the global solution will be described.

11:30 a.m. **Update on California's Light-Duty Vehicle Regulations**

California Air Resources Board (U.S.A.)

California's light-duty vehicle programs have resulted in extremely clean vehicles and promoted a number of advanced technologies. The recent changes to California's Zero Emission Vehicle regulation will be presented along with a timeline for Lower Emission Vehicle regulatory changes.

12:00 p.m. **Lunch**

Materials and Testing

1:00 p.m. **PPS Compounds and Alloys Compatible with Alternative Fuels**

Chevron Phillips Chemical Company (U.S.A.)

PPS products have been expanded with new PPS/elastomer and PPS/nylon alloys that exhibit better ductility and impact resistance than typical PPS compounds while retaining temperature resistance, dimensional stability and chemical resistance of PPS. These compounds demonstrate resistance to a variety of alcohol-containing fuels and soy biodiesel.

1:20 p.m. New Developments in Elastomeric Barrier Fuel Hose to Meet Changing Alternative Fuels and Regulatory Requirements

Dyneon (U.S.A.)

The evolution of Dyneon™ THV fluoroplastic hose barriers will be reviewed together with a next generation barrier material. The new materials exhibit ethanol resistance and enable PZEV and proposed LEV III requirements. A *permeation estimator* program for predicting hose permeation performance will be demonstrated. A new barrier technology (FPO-3741) for biodiesel fuel hose applications will be introduced.

1:40 p.m. Comparison of Highly Fluorinated Liquid Silicone Rubber and High Consistency Fluorosilicone Elastomer

Momentive Performance Materials (Germany / U.S.A.)

For performance in chemically harsh environments, trifluoropropyl silicone polymer is used to impart added fuel, oil and solvent resistance for o-rings, membranes, seals, and gaskets. Over the last several years, the trend has been toward the use of liquid silicone injection rubber due to its processability, design versatility, quality and productivity.

2:00 p.m. Gas Barrier Analysis System for Films, Sheets and Cut-Out Pieces of Resin Tanks

GTR TEC (U.S.A.)

The differential pressure method which is ideal for barrier materials such as EVOH is described for evaluating barrier properties in the presence of gas, vapor and liquid. The method has a number of benefits including the ability to separate permeate into its individual components, perform measurements using actual films and sheets and use as a FID.

2:20 p.m. Durability Performance of Steel Fuel Tanks in Aggressive Flexfuels

Strategic Alliance for Steel Fuel Tanks (U.S.A.)

To evaluate the effect of various alcohol-containing fuels on steel fuel tanks, the corrosion durability of 10 different steel fuel tank *systems* has been investigated. The results of 26-week exposure tests in 3 aggressive fuels (CE10A, CE22A and CE85A at 60°C) are summarized. Ongoing durability tests of the same 10 steel *systems* exposed to biodiesel are described.

2:40 p.m. Performance of Nickel Plated Steel - The Effect of Biofuels on Steel Fuel Lines

Corus Special Strip (Germany)

Nickel plated fuel lines have been tested for compatibility with 5 different biofuels. The VDA 130-207 (method) has been used for the tests. The most critical issue is the weld and this was studied as part of the tests. Pictures and descriptions of the entire fuel line as well as the surface and the microstructure will be documented.

3:00 p.m. Afternoon Break

Component Developments

3:30 p.m. Carbon Canister Performance Influenced by the Vehicle System

MAHLE Filtersysteme (Germany)

The performance of carbon canisters is influenced by various powertrain parameters especially for hybrid vehicles that require an efficient use of the purge map. This presentation covers important parameters from design and manufacturing to meet the emission and performance standards of carbon canisters and will consider the use of ethanol fuels.

4:00 p.m. Low Permeation Connectors

NORMA Group (U.S.A.)

New proprietary technology allows customers to use existing processes and technology to attach low-permeation valves and spigots in the fuel system. A new quick connector technology enables a low cost and low permeation approach that works with both plastic and metal thereby eliminating the need for traditional metal-to-rubber interfaces with hose clamps.

4:30 p.m. New Modular Chassis Plastic Diesel Pre-Filter for Commercial Vehicles

MAHLE Filtersysteme (Germany)

A modular concept for a chassis-mounted fuel filter with highest water separation efficiency over the whole filter lifetime has been developed that includes a new superhydrophobic filter media. Additional module options include: water sensor, BlueDrain system (automatic water drain with cleaning element and heater), priming and feeding pumps and a clogging signal.

5:00 p.m. Closing Remarks and Cocktail Reception

Conference Exhibitors

A. KAYSER Automotive Systems

Alfmeier

Arkema

Bulk Molding Compounds

**Chevron Phillips Chemical
Company**

Eaton

EVAL Americas

GTR TEC

Hyperion Catalysis

INERGY Automotive Systems

LyondellBasell Industries

RayConnect

**Strategic Alliance for Steel Fuel
Tanks**

Solvay Advanced Polymers

Solvay Solexis

Ticona Engineering Polymers

Zeon Chemicals

Consulting Expertise

Application and Market Development

Evaluate Product Strategies

Develop Marketing Plans

Identify Key Entry Points and Follow-up Requirements

Business Strategy

Identify Core Capabilities and Weaknesses

Evaluation of Manufacturing Facility and Functions

Competitive Environment

Customer Perceptions

Technology Assessment

Manufacturing Cost Economics

Design

Materials and Processes



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