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Plastics in Automotive

Exterior Application

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Vorwort

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Preface

Today, polymer materials play leading roles in advanced automotive engineering.

Lightweight design, active and passive safety features, appealing industrial designers' concepts, optimized properties for noise abatement or aerodynamics, as well as an impressive overall image of high quality and advanced automotive engineering have long profited from the use of polymer materials and their associated composites.

Today's automotive industry is challenged by ever more stringent demands to reduce fuel consumption and exhaust emissions and to design products that can comply with environmental legislation today and in the future.

Engineers and manufacturers who develop and produce polymer-based components for automobiles need to focus on reducing development times and optimizing production processes for quality and economic viability. Computer-aided selection of polymer materials, mathematical simulation of both the production and mechanical properties of plastic components are tools that can help the industry arrive at innovative and economical solutions when designing polymer applications for cars.

Every member in the polymer processing chain is working hard on new concepts to meet these challenges as best as they can.

For more than thirty years, the VDI Gesellschaft Kunststofftechnik has supported German and European

automobile and commercial vehicle manufacturers by organizing international meetings featuring experts and presentations for participants from the feed stock, polymer processing and automotive industries as well as from renowned scientific institutions for polymer engineering. The aim is to provide a joint platform for the worlds of polymer and automobile technologies to report on recent polymer developments and applications for passenger cars and commercial vehicles at regular intervals and to discuss technological issues of polymer engineering with fellow members of these communities.

This volume entitled "Plastics in Automotive Engineering" – Exterior Applications" gives an overview of novel polymer applications for automotive engineering. Case studies illustrate current polymer applications in the exterior of passenger cars and commercial vehicles "made in Germany and Europe". They describe component-specific and vehicle-specific solutions, providing a sweeping insight into current developments in the polymer producing industry, novel production methods and the property profiles of advanced polymers.

This volume will be followed by another two volumes currently in preparation which will address polymer applications in the car interior and in the engine compartment and assemblies.

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