

**INNOVATIVE TECHNOLOGIES**

# NVH Car Chassis Solutions





# We Make Mobility Safe and Comfortable.

## Innovations that Focus on the Market – and Drive it.

We at BOGE Rubber & Plastics see ourselves as pioneers and have made it our goal to drive topics such as comfort and driving dynamics. With our products, OEMs define the brand-specific driving characteristics, creating an authentic driving experience.

We are proud to have been involved in the improvement of driving dynamics and comfort characteristics of many successful vehicle developments of the past decades.

Chassis mounts play a crucial role as elastokinetic components influencing the comfort and the dynamic driving properties through fine tuning.

The development of each new model poses extensive requirements for safety, agility, transmission of forces and the comfort performance of modern chassis.

BOGE Rubber & Plastics strives to meet and exceed all these requirements. With this we provide best possible support for our customers to ensure their success in the market.

## All our Developments are Based on:

- Our experts' long-standing know-how
- Excellent partnerships with our customers, suppliers and service providers
- Recognized expertise in development, design, simulation and testing
- Forward-looking thinking and acting

We set worldwide standards in development and design, manufacturing and quality assurance – to make mobility and the pleasure of driving even safer and more comfortable in the future. Our global presence means that we are very well prepared for the current challenges of the automotive industry.

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## Rubber as a Material

... is difficult to calculate and control in development and simulations due to the non-linearity of this product. Our long-standing experience and our state-of-the-art development, testing and simulation facilities make us a reliable partner for the development and production of modern chassis components.

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# Reliable. Economical. Convenient.

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# Successful Partnerships.

We develop innovative complete elastokinetic chassis solutions for a brand-specific driving experience in a team together with our customer and suppliers.

## We Achieve this By:

- Taking into account all relevant factors such as function, cost, weight and quality, starting with the first draft
- Hardware and software solutions: from simulation to prototypes and simulation of series production processes and the implementation of pre-series products already during an early concept stage.
- Personal contacts and short communication paths
- Timely implementation of all development activities
- Reliable production processes (ensured through FMEA and feasibility studies)

We feel at home in projects for all vehicle classes and model series and develop individual chassis mount solutions which ensure safety, comfort and driving dynamics in all driving situations.

## What Sets BOGE Rubber & Plastics Apart:

- Customized solutions that provide our unique selling propositions to our customers
- High-performance rubber compounds – developed by our own experts
- Individual, stable processes
- Excellent development tools with best possible online links to the OEM peripheries
- High level of simulation competence
- Current testing resources with modern technology: from verification of characteristic curves to multi-axial real-time efficiency testing
- Experienced and excellently trained team
- Global cooperation in the simultaneous engineering process

## OUR DEVELOPMENT FOCUS IS ON THE FOLLOWING APPLICATIONS:

### Vertical Dynamics



#### Strut Mounts

- Isolates micro vibrations and optimizes vertical damping
- Supports stiffness of the front end
- Integrates functions in a very small space



#### Plastic Stabilizer Links

- High load transmission for elastokinetically defined maneuverability
- Optimized for weight and costs
- Supports reduction of roll motions

### Decoupling System



#### Subframe Mounts

- Defined transmission of the vertical axle forces
- Integrates function and lightweight design
- Increases comfort by decoupling-chassis and car body



#### Hydraulic Subframe Mounts

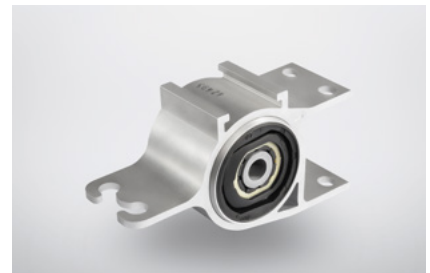
- Optimized damping properties increase comfort
- Optimizes system vibrations of axle and powertrain
- Switchable version possible

### Ride & Handling



#### Control Arm Bushings

- Positive influence on axle rigidity
- Transmits high loads in minimum space
- High radial rigidity with lowest possible torsion rate



#### Hydraulic Control Arm Bushings

- Optimizes the relation of driving dynamics and comfort
- Crucial for the elastokinetic performance of the axle
- Integrates functions by optimal link of the axle



# Innovative. International. Experienced.

Top NVH and lightweight products for the automotive industry – that is what BOGE Rubber & Plastics stands for all over the world. As a longstanding partner of international OEMs, we develop innovative solutions for the markets of tomorrow.

## BOGE Rubber & Plastics at a Glance:

- Leading international player in the field of rubber-metal and plastics technology
- Established development partner of the global OEMs
- More than 80 years of experience in the automotive industry
- Innovations and complete solutions that set new standards in vibration control technology and lightweight construction
- Unrivalled dedication to service and customer support
- Global operation with eleven locations and around 4,200 employees on four continents

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