

Master Thesis / Masterarbeit



Carbon Fiber Reinforced Brake Caliper

The drive towards lightweight solutions has brought a new series of challenges for the brake system in the automotive world. A series of contrasting objectives have to be fulfilled such as high stiffness, very low weight, durability and heat management. We are developing new solutions based on C-SMC materials (carbon sheet moulding compounds), that represents one of the most promising lightweight alternatives to traditional steels and aluminium solutions. Join us in a unique opportunity to develop the first carbon fiber brake caliper ever made

Objective of the thesis:

- Use of simulation softwares (ANSA, META, Abaqus, Matlab)
- Material modelling and evaluation
- Optimization on geometrical / functional level
- Design optimization based on simulation results
- Comparison of simulation with real world measurements

Requirements:

- Interest and curiosity in Mechanical/Thermal simulations
- Independent and goal oriented mindset
- Knowledge of (applied) FEM/ CAD is advantageous

Duration: max. 6 months
Start / End: from September 2021
Working place: supplied by FTG

This master thesis is offered with an expense allowance.